

A NEW ORCHARD and Garden :

OR

The best way for planting, grafting, and to make
any ground good, for a rich Orchard : Particularly in the North,
and generally for the whole kingdome of England, as in nature,
reason, situation, and all probabilitie, may and doth appeare.

With the Country Housewives Garden for herbes of common vse, their
vertues, seasons, profits, ornaments, varietie of knots, models for trees, and
plots for the best ordering of Grounds and Walkes.

AS ALSO

The Husbandry of Bees, with their severall uses and annoyances, all being the
experience of 48. yeeres labour, and now the second time corrected and
much enlarged, by *William Lawson.*

Whereunto is newly added the Art of propagaring Plants, with the true ordering
of all manner of Fruits, in their gathering, carrying home, and preservation. by J. Harward.

Skill and paines bring fruitfull gaines.

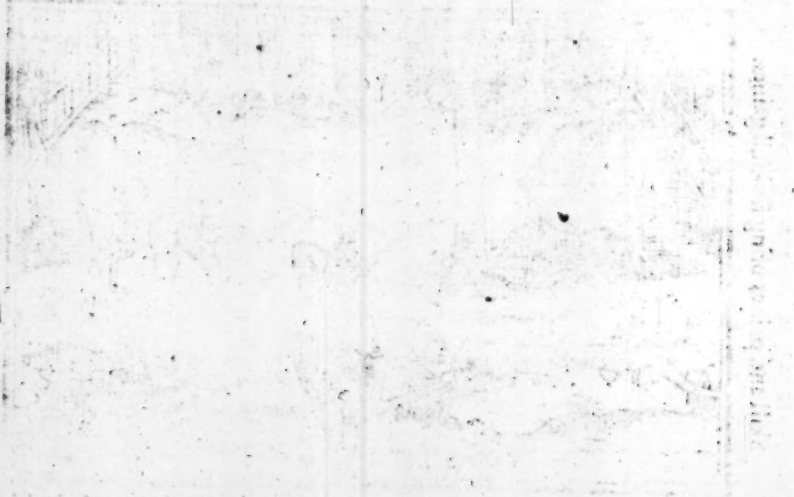


Nemo sibi natu.

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shop neere Fleet-street Conduit. 1623.

NEW ORCHARD and Garden

The following is a list of the
plants which are now in flower
and which are likely to be in flower
in the month of May. The plants
are arranged in the order of their
flowering. The plants are arranged
in the order of their flowering.
The plants are arranged in the
order of their flowering. The plants
are arranged in the order of their
flowering. The plants are arranged
in the order of their flowering.





TO THE RIGHT WORSHIPFULL,

SIR HENRY BELOSSES
Knight and Baronet.

Worthy Sir,



Hen in many yeeres by long experience I had furnished this my Northerne Orchard and Countrey Garden with needfull plants and vñeull herbes, I did impart the view thereof to my friends, who resorted to me to conferre in matters of that nature, they did see it, and seeing it desired, and I must not denie now the publishing of it (which then I allotted to my priuate delight) for the publike profit of others. Wherefore, though I could pleade custome the ordinary excuse of all Writers, to chuse a Patron and Protector of their Workes, and so shroud my selfe from scandall vnder your honourable fauour, yet haue I certaine reasons to excuse this my presumption: First, the many cour-

The Epistle Dedicatory.

testies you haue vouchsafed me. Secondly, your delightfull skill in matters of this nature. Thirdly, the profit which I receiued from your learned discourse of Fruit-trees. Fourthly, your animating and assisting of others to such endeouours. Last of all, the rare workes of your owne in this kinde : all which to publish vnder your protection, I haue aduentured (as you see.) Vouchsafe it therefore entertainment, I pray you, and I hope you shall finde it not the vnprofitablest seruant of your retinue : for when your serious employments are ouerpassed, it may interpose some commoditie, and raise your contentment out of varietie.

Your Worships

most bounden,

WILLIAM LAWSON.



THE PREFACE

to all well minded.



ARt hath her first originall out of experience, which therefore is called the Schoole-mistresse of fooles, because she teacheth infallibly, and plainly, as drawing her knowledge out of the course of Nature, (which neuer failes in the generall) by the senses, feelingly apprehending, and comparing (with the helpe of the minde) the workes of nature; and as in all other things naturall, so especially in Trees: for what is Art more than a provident and skilfull Collectrix of the faults of Nature in her particular workes, apprehended by the senses? As when good ground naturally brings forth shistles, trees stand too thicke, or too thin, or disorderly, or (without dressing) put forth unprofitable suckers, and such like. All which, and a thousand more, Art reformeth, being taught by experience: and therefore must we count that Art the surest, that stands upon experimentall rules, gathered by the rule of reason (not conceit) of all other rules the surest.

Whereupon haue I of my meere and sole experience, without respect to any former written Treatise, gathered these rules, and set them downe in writing, not daring to hide the least talent ginen me of my Lord and Master in Heauen: neither is this iniurious to any, though it differ from the common opinion

The Preface.

in diuers points, to make it knowne to others, what good I haue found out in this facultie by long triall and experience. I confesse freely my want of curious skill in the Art of planting. And I admire and praise Plinie, Aristotle, Virgil, Cicero, and many others for wit and iudgement in this kinde, and leaue them to their times, manner, and severall Countries.

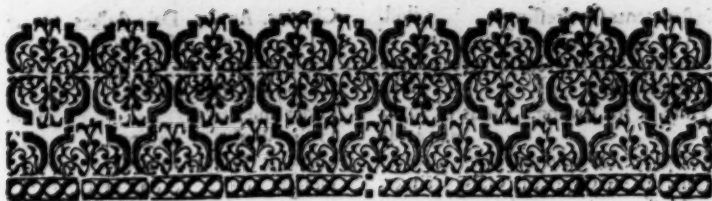
I am not determined (neither can I worthily) to set forth the praises of this Art: how same, and not a few, even of the best, haue accounted it a chiefe part of earthly happinesse, to haue faire and pleasant Orchards, as in Hesperia and The Italy, how all with one consent agree, that it is a chiefe part of Husbandry (as Tully de senectute) and Husbandry maintaines the world; how ancient, how profitable, how pleasant it is, how many secrets of nature it doth containe, how loved, how much practised in best places, and of the best: This hath already beene done by many. I only aime at the common good. I delight not in curious conceits, as planting and graffing with the root upwards, inoculating Roses on Thornes, and such like, although I haue heard of diuers, proued some, and read of moe.

The Stationer hath (as being most desirous with me, to further the common good) bestowed much cost and care in hauing the Knots and Models by the best Artizan cut in great varietie, that nothing might be any way wanting to satisfie the curious desire of those that would make use of this booke.

And I shew a plaine and sure way of planting, which I haue found good by 48. yeeres (and moe) experience in the North part of England: I preiudicate and enuie none, wishing yet all to abstaine from maligning that good (to them unknowne) which is well intended. Farewell.

Thine, for thy good,

W. L.



The Contents.

C hap. 1. Of the Gardner, he must be religious, skilfull, painfull. His wages. pag. 1	Grafts must be fenced. pag. 11
Chap. 2. Of the Soyle. pag. 3	Chap. 8. Of the distance of trees. pag. 22
The kinds of trees. pag. 3	Hurts of too neere planting. Remedie. pag. 22, 23
Barren earth, plaine, moist. pag. 4	All touches hurtfull. pag. 22, 23
Graffe, naturally plaine, crust of the earth. pag. 3	The best distance of trees. Parts of a tree. pag. 23
Chap. 3. Of the Site. Low and nere a river. pag. 3	Waste ground in an Orchard. pag. 24
Markham. Winds, Sunne, trees against a wall. pag. 6, 7	Chap. 9. Of placing trees. pag. 25
Chap. 4. Of the Quantitie. pag. 8	Chap. 10. Of Grafting. pag. 26
Orchard compared with a corne field or vineyard. pag. 8	Of a Graffe. Kinds of grafting. Graft how. A Graft what. Eyes. pag. 26, 27
Compared with a garden. The quantitie. Want no hindrance. pag. 9	Time of grafting. Gathering Graffes. pag. 28
Chap. 5. The Forme. pag. 10	Graffes of old trees. Where taken. Emits. Incising. pag. 28, 29
The Modell in Portraiture. pag. 11	A great stocke. Packing. pag. 30
Chap. 6. Of Fences. Effect of euill fences. The fence your owne. Kinds of fence. Earthen wals. pag. 12	Inoculating Grafting in the Scutchion. pag. 31
Pale and Raile. Stone wals, Quicke wood and Moats. pag. 13	Chap. 11. Of dressing trees. Necessitie of right dressing trees. pag. 32
Chap. 7. Of Sets. Slips. Burknots. 14	Timber wood euill drest. pag. 32
Vsuall Sets. Maime roots cut. Stow sets removed. pag. 15	The cause of hurts in wood. How to dresse timber trees. pag. 33
Tying of trees. Signes of diseases, Suckers. Good sets. pag. 16	Profit of trees drest. The end of trees. Trees will take any forme. pag. 34
A running plant. pag. 16	The end of trees. How to dresse a fruit tree. pag. 35
Sets bought. The best sets. Vnremoved how. pag. 17	Benefits of good dressing. pag. 36
Sets vngrafted best of all. Time of removing. pag. 18	Time best for proyning. Dresse betimes. pag. 37
Remoue soone. The manner of setting. Set in the crust. Moyster good. pag. 20	Faults of euill drest trees. The remedie. Forme akered. Dressing old trees. 1. Long boall. 2. Water boughes. pag. 38
	Barke pild and remedie. 3. Fretters. 4. Suckers. 5. One principall top or bough. pag. 39
	Instruments.

The Contents.

Instruments for dressing.	ibid.
Chap. 12. Of foyling. Necessitie of foyling. Trees great suckers.	pag. 40
Great bodiees.	ibid.
Time fit for foyling. Kinds of foyle.	pag. 41, 42
Chap. 13. Of annoyances.	pag. 43
Euils in an Orchard. Gals, Canker, Mosse.	pag. 43
Weaknesse in setting. Bark-bound. Wormes, Barke pild.	Wounds.
	pag. 43, 44
Hurts on trees. Ants. Earwigs. Caterpillars. Externall euils.	pag. 44
Deere. Birds. Other trees.	pag. 45
Winds. Frosts. Weeds. Wormes.	pag. 46
Moales.	pag. 46
Wilfull annoyances.	pag. 47
Chap. 14. Of the age of trees.	ibid.
Parts of a trees age. Mans age.	pag. 48
The age of timber trees. How age of trees is discerned.	pag. 49
Chap. 15. Of gathering and keeping offruit.	ibid.

Cheries. Apples. Drie stalkes. Ouerladen trees. Instruments. Bruises.	pag. 51
Keeping.	pag. 51
Chap. 16. Of the profits.	pag. 52
Cidar and Perry.	ibid.
Fruit. Waters. Conserues.	ibid.
Chap. 17. Of Ornament.	pag. 53
Delight the chiefe end of Orchards.	ibid.
An Orchard delightfome. An Orchard is Paradise. Causes of wearisomenesse. Orchard is the remedie.	pag. 53, 54
All delight in Orchards. This delights all the senses. Delighteth old age.	pag. 53, 54
Causes of delight. Flowers. Borders, and Squares. Mounts. Diall. Musicke. Walks. Seats. Order of trees.	pag. 54, 55
Borders.	pag. 54, 55
Shapes of men and beasts. Mazes.	pag. 55, 56
Bowle Alley. Buts. Herbes. Conduict. River. Moats. Bees.	pag. 55, 56
Vine. Birds. Nightingale. Robin redbreast. Wren. Black-bird. Thrush.	pag. 56



THE BEST SVREST.
AND READIEST WAY TO
make a good Orchard and Garden.

CHAP. I. Of the Gardener and his Wages.



Whosoever desireth and endeavoureth to have a pleasant and profitable Orchard, must (if he be able) promise himselfe of a Frugaliter, religious, honest, skilfull in that faculty, and therefore painful: the religious, I meane (because many thinke religion but a fashion of some to goe to Church) maintaining, and cherishing things religious: as Schooles of learning, Churches, Luthes, Church goods, and rights: and about all things Gods word, and the Preachers thereof, so much as he is able, magnifying prayers, comfortable conference, mutual instruction to edifie, almes, and other works of Charity, and all out of a good conscience.

Honestie in a Gardener, will grace your Garden, and all your house, and helpe to stay and rule your servingmen, giving offence to none, nor calling your name into question by dishonest acts, nor infecting your family by evil counsell or examples: for there is no plague in infections as Idleness and Idleness, he will not put to the your profit, nor hinder your pleasures.

Concerning his skill, hee must not be a Scholler, to make newe wayes take in hand that, which he cannot performe, especially in so weighty a thing as an Orchard: than the which, there can be no humane thing more excellent, either for pleasure

Religious.

Honest.

Skilfull.

sure of profit, as shall (God willing) be proved in the treatise following. And what an hindrance shall it be, not onely to the owner, but to the community, that the unspeakable benefit of fruit improved, shall be lost, by the audacious attempt of an unskillfull workman.

Painfull.

The Gardner had not need be an idle, or lazye Lubber, for so your Orchard being a matter of such moment, will not prosper. There will not be same thing to doe. Allwaies are allwaies growing. The great mother of all living Creatures, the Earth, is full of seed in her bowels, and any stirring gives them heat of Sunne, and being laid naked by, they grow: Potwoles worke daily, though not allwaies alike. Winter herbes at all times will grow (except in extreme frost.) In winter your young trees and herbes shoulde be lightened of snow, and your Allyes cleansed: drifts of snow will set Dære, Hares, and Conyes, and other noysome beasts, out your walles and hedges, into your Orchard. When Summer cloathes your borders with greene and peckled colours, your Gardner must dress his hedges, and anthe workes: watch his Was, and blue them: distill his Roses, and other herbes. Now begins Summer Fruit to ripe, and craue your hand to pull them. If he have a Garden (as he must need) to keepe, you must needs allow him some helpe, to end his labours which are endless, for no one man is sufficient for these things.

Wages.

Such a Gardner as will conscionably, quietly and patiently, trauell in your Orchard, God shall crowne the labors of his hands with joyfullnesse, and make the land a prodigall house upon your trees, he will produce your lone, and earne his wages, and paye belonging to his place: The house being served, fallen fruit, superfluity of herbes, and flowers, seedes, grasse, sets, and besides other small, that fruit which your hountifull hand shall reward him withall, with much augment his wages, and the master of your Was will pay you backe againe.

If you be not able, nor willing to hire a Gardner, keepe your profits to your selfe, but then you must take all the paines: And for that purpose, if you want this faculty, to instruct you, haue I undertaken these labours, and gathered these Rules, Vnto chiefly respecting my countreyes good.

CHAP.

CHAP. II.

Of the Soyle.



Plant-Trees most common, and meetest for our northerne Countreies; (as Apples, Peares, Cherries, Filberds, redde & white Plummis, Damsons; and Bullas,) for we meddle not with A-

Kindes
of trees.

picockes nor Peaches, nor scarcely with Quinces, which will not like in our cold parts. Unlesse they be helped with some reffer of Sunne, or other like meanes, nor with bushes, bearing berries, as Barbertes, Gosberries, or Crofers, Raspberries, and such like, though the Barbery be wholesome, and the tree may be made great: doe require (as all other trees doe) a blacke, fat, mellow, cleane and well tempered soyle, wherein they may gather plenty of good sap. Some thinke the wastell would haue a chaulke rocke, and the Sallow, and Elter a waterish marsh. The Soyle is made better by deluing, and other meanes, being well wester, and the wisdomesse of the earth and weeds (for euerie thing subiect to man, & seruing his vse, not well ordered, is by nature subiect to the curse,) is killed by frost and drought, by fallowing and laying on heapes, and if it be cold earth, with burning.

Soyle.

If your ground be barren (for some are forced to make an Orchard of barren ground) make a pit three quarters deepe, and two yards wide, and round in such places, where you would set your trees, and fill the same with fat, pure, and mellow earth, one whole foot higher than your Soyle, and therein set your Plant. For who is able to manure an whole Orchard plot, if it be barren? But if you determine to manure the whole site, this is your way: digge a trench halfe a yard deepe, all along the lower (if there be a lower) side of your Orchard plot, casting vp all the earth on the inner side, and fill the same with good short, hot, and tender mucke, and make such another Trench, and fill the same as the first, and so the third, and so throughout your ground. And by this meanes your plot shall be fertile for your life. But be sure you set your trees, neither in dung nor barren earth.

Barren
Earth.

Your ground must be plaine, that it may receiue, and Plaine.
keepe

Moyft.

kepe moyfture, not onely the raine falling thereon, but alfo wa-
ter caft vpon it, or defcending from higher ground by finces,
Conduits, &c. For I account moyfture in Summer very need-
full in the fople of trees, and brought in Winter. Doubted,
that the ground neither be boggy, nor the inundation be past 24
houres at any time, and that raine in the whole Summer, and fo
off in Winter. Therefore if your plot be in a flanke, or downe
declent, make trenches vnder trees, & digg, and alfo make
like, in as the water may be ftrayed from paffage. And if too
much water be any hindrance to your walks (for 6 to 7 to 8
doe well becom an Orchard, and an Orchard them:) raife
your walks with earth first, and then with ftones, as biggs as
conuenient: and finally with grauell. In Summer you need not
doubt to much water from heauen, either to hurt the health of
your body, or of your trees. And if queftioning moleft you af-
ter our day, alioo it then by deepe trenching.

Some for this purpose digge the fople of their Orchard to re-
ceiue moyfture, which I cannot approve: for the roots with dig-
ging are vtterly hurt, and efppecially being digged by some
vnskilfull hand. For the Carpenter cannot doe all himfelfe.
And moreover, the roots of Apples and Peares, being laid nere
day, with the heat of the Sunne, will put forth suckers, which
are a great hinderance, and sometimes with euill guiding, the
destruction of trees, while the veltling be very shallow, and the
ground laid verie leuell againe. Cherries and plummee without
doubting, will hardly or neuer (after twenty yeares) be hurt
from fuch suckers, nor alpes.

Grasse.

Grasse alfo is thought needfull for moyfture, for you let it not
touch the roots of your trees: for it will breake moft, and the
boall of your tree nere the earth would haue the comfort of the
sunne and ayre.

Some take their ground to bee too moist when it is not fo, by
reason of waters standing thereon, for except in foure martches,
fprings, and continuall ouer-flowings, no earth can be too moist.
Sandy and fat earth will auoid all water falling by receit. In-
deed a stiff clay will not receiue the water, and therefore if it
be grasse or plaine, efppecially hollow, the water will abide,
and it will seeme waterish, when the fault is in the want of
manuring, and other good dressing.

This

This plainesse which we require, had need be naturall, because to force an uneven ground toill destroy the fatnesse. For every soile hath his crust next day wherein trees and herbes put their rootes; and thence they draw their sap, which is the best of the soile, and made fertile with heate and cold, moisture and drought, and under which, by reason of the want of the said temperatures, by the said four qualities, no tree nor herbe (in a winter) will grow nor put root. As may bee seen if in digging your ground, you take the weeds of most growth: as grasses or docks, (which will grow though they lye upon the earth bare) yet bury them under the crust, and they will surely dye and perishe, and become manure to your ground. This crust is not past 15. or 18. inches deepe in good ground, in other grounds less. Where by appeares the fault of forced plaines, viz. your crust at the lower parts, is covered with the crust of the higher parts, and both with waste earth: your heights having the crust taken away, are become merely barren: so that either you must force a new crust, or have an enill soile. And be sure you lessen, before you plant, lest you bee forced to remove, or hurt your plants by digging: and casting amongst their roots. Your ground must be cleared as much as you may of stones, and gravel, walls, hedges, bushes and other weeds.

Natural-
ly plain.

Crust
of the
earth.

CHAP. III.

Of the Site.



There is no difference, that I and before the necessity of a good soile, and a good site of an Orchard. For a good soile (as is before described) cannot want a good site, and if it doe, the fruit cannot be good, and a good site will much mend an enill soile. The best site is in low grounds, (and if you can) neere unto a River.

Low and
neere a
River.

High grounds are not naturally fat. And if they have any fatnesse by mans hand, the very descent in time both wash it away. It is with grounds in this case as it is with men in a common wealth. Such will have more: and once worse, seldom or never rich. The raine will scind, and wash, and the wind will blow fatnesse from the heights to the hollowes, where

it will abide, and fatten the earth though it were barren before.

Hence it is, that we have seldome any plaine grounds, and low, barren: and as seldome any heights naturally fertill. It is unspeakable, what fatnesse is brought to low grounds by Inundations of waters. Neither did I ever know any barren ground in a low plaine by a River side. The goodnesse of the soile in Howl or Hollow-dernes, in *Torkeshire*, is well knowne to all that know the River Humber, and the huge bulkes of their Cattell there. By estimation of them that have seene the low grounds in Holland, and Zealand, they farre surpass the most Countries in Europe for fruitfulnessse, and onely because they lye so low. The world cannot compare with *Egypt*: for fertility, so farre as *Nile* doth over-flow his bankes. So that a fitter place cannot be chosen for an Orchard, than a low plaine by a river side. For besides the fatnesse which the water brings, if any cloudy mist or raine be stirring, it commonly falls downe to, and follows the course of the River. And where se we greater trees of bulk and bough, they standing on or nere the waters side? If you aske why the plaines in Holdernes, & such countries are destitute of woods? I answer that men and cattell (that have put trees thence, from out of plaines to void corners) are better then trees. Neither are those places without trees. Our old fathers can tell vs, how woods are decayed, & people in the remembrance of trees multiplied. I have stood somewhat long in this point, because some doe utterly condemne a moist soile for fruit-trees.

A low ground is good to avoid the danger of winds, both for shaking down your vnrripe fruit, and blowing down your trees. Fruit blowne vnrripe, are small worth: and though they be ripe, yet being bruised with the fall, (especially if they be big) they are not good but for present vse. Trees the most (that I know) being laden with wood, for want of proping, and growing high, by the unskillfulnessse of the Arborist, must needs be in continuall danger of the South-west, West, and North-west winds, especially in September and March, when the aire is most temperate from extreme heat, and cold, which are deadly enemies to great winds. Therefore chuse your ground low. And if you be forced to plant in a higher ground, let high and strong walls, houses, and Trees, as *Willow*-trees, *Plane*-trees, *Oaks*, and *Ashes*, placed in good order, be your fence for winds.

The

*Psal. 1. 3.
Eze. 17. 8.
Eccl. 39. 17.

Mark-
ham.

Winds.
chap. 13

The sucken of your Dwelling house, descending into your Orchard (if it be cleanly conueighed) is good.

The Sunne (in some sort) is the life of the world. It maketh proud growth, and ripens kindly, and speedily, according to the golden tearme: *Annuu fructificat, non tellus.* Therefore in the Countreies, neerer approaching the Zodiacke, the Sunnes habitation, they haue better, and sooner ripe fruit, then we that dwell in these frozen partes.

Sunne.

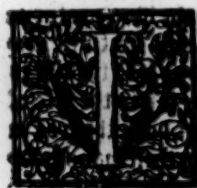
This prouoketh most of our great Arbozists, to plant Apples, Cherries, and Peaches, by a wall, and with sacks, and other meanes to spread them vpon, and fasten them to a wall, to haue the benefit of the immoderate reſlere of the Sun, which is commendable, for the hauiug of faire, good, & some ripe fruit. But let them know it is more hurtfull to their trees then the benefit they reape thereby can require: as not suffering a Tree to line the tenth part of his age. It helpes Gardners to worke, for first the wall hinders the roots, because into a dry and hard wall of earth or stone, a tree will not, nor cannot put any root to profit, but especially it stops the passage of sap, whereby y barke is wounded, and the wood, and diseases grow, so that the tree becomes short of life. For as in the body of a man, the leaning or lying on some member, whereby the course of blood is stoppt, makes that member as if were dead for the time, till the blood returne to his course, and I thinke, if that stopping should continue any time, the member would perith for want of blood (for the life is in the blood) and so endanger the body: so the sap is the life of the Tree, as the blood is to mans body: neither doth the tree in winter (as is supposed) want his sap, no more then mans body his blood, which in winter, & time of sleep dwales inward. So y the dead time of winter, to a tree, is but a night of rest: for the tree at all times, euen in winter is nourished with sap, & groweth as well as mans body. The chilling cold may well some little time stay, or hinder the proud course of the sap, but so little & so short a time, that in euery calme, & mild season, euen in the depth of winter (if you marke it) you may easily perceiue, the sap to put out, & prau trees to increase their buds, which were formed in the Summer before, and may easily then bee discerned: for leaues fall not off, till they be thrust off, with the knots or buds, whereupon it comes to passe that Trees cannot beare fruit plen

Trees against a wall.

plentifully thus yeres together, and make themselves ready to
bloscome against the seasonableness of the next Spring. And
if any frost be so extreme, that it stop the sap too much, or
too long, then it kills the forward fruit in the very bud, and
sometimes the tender leaves and twigs, but not the tree. Where-
foze (to returne) it is perillous to stop the sap. And where, as
Iohn, did you ever see a great tree pacht on a wall? Nay, who
did ever know a tree so unkindly splat, come to age? I haue
heard of some, that out of their imaginary cunning, haue plan-
ted such Trees, on the North side of the wall, to auoid drought,
but the heat of the Sunne is as comfortable (which they should
haue regarded) as the drought is hurtfull. And although water
is a soveraigne remedy against drought, yet want of Sun is no
way to be helped. Wherefoze to conclude this Chapter, let your
ground lie so, that it may haue the benefit of the south, and well
Sunne, and so low and close, that it may haue moisture, and in-
crease his fatnesse (for trees are the greatest suckers and pillars
of earth, and (as much as may be) free from great winds.

CHAP. IIII.

Of the quantitie.



I would bee remembred what a benefit re-
seth, not only to euery particular owner of
an Orchard, but also to the common-wealth,
by Fruit, as shall be shewed in the 16. chap-
ter (God willing) whereupon must needs
follow: the greater the Orchard is (being
good and well kept) the better it is, for of
good things, being equally good, the biggest is the best. And if
it shall appeare, that no ground a man occupieth (no, not the
Corneye field) yeldeth more gaine to the purse, and house-kee-
ping (not to speake of the vnspokeable pleasure) quantity for
quantity, than a good Orchard (besides the cost in planting,
and dressing an Orchard, is not so much by farre, as the la-
bour and feeding of your Corneye-feldes, nor for durance of time,
comparable, besides the certainty of the one before the other. I
see not how any labour, or cost in this kinde, can be idly or wast-
fully bestowed, or thought too much. And what other thing is a
line.

Orchard
as good
as a corn
field.

Wineyard (in those Countries where Vines do thrive) than a large Orchard of trees bearing fruit: Or what difference is there in the Juice of the Grape, and our Cyder and Perry, but the goodnesse of the Soile and Climate where they grow: which maketh the one more ripe, and so more pleasant then the other. Whatsoever can be said for the benefit rising from an Orchard, that makes for the largenes of the Orchards bounds. And (me thinks) they doe preposterously, that bestow more cost and labours, and more ground in and upon a Garden than upon an Orchard, whence they reape and may reape both more pleasure and more profit, by infinite degrees. And further, that a Garden neuer so fresh, and faire, and well kept, cannot continue without both renewing of the earth, and the herbs often, in the short and ordinary age of a man: whereas your Orchard well kept shall dure diuers hundred yeeres, as shall be shewed chapter 14. In a large Orchard there is much labour saved, in fencing, and otherwise: for three little Orchards, or few trees, being (in a manner) all out-sides, are so blasted and dangered, and commonly in keeping neglected, and require a great fence; whereas in great Orchards, trees are a mutuall defence one to another, and the keeping is regarded, and lesse fencing serues for acres together, than three in severall inclosures.

Now what quantity of ground is meetest for an Orchard can no man prescribe, but that must be left to euery mans severall iudgement, to be measured according to his ability and will, for other necessities besides fruit must be had, and some are more delighted with Orchards then others.

Let no man hauing a fit plot pleade poverty in this case, for an Orchard once planted will maintaine it selfe, and yield infinite profit besides. And I am perswaded, that if men did know the right and best way of planting, dressing, and keeping trees, & felt the profit and pleasure thereof, both they that haue no Orchards would haue them, and they that haue Orchards, would haue them larger, yea fruit trees in their hedges, as in Worstershire, &c. And I thinke, that the want of planting, is a great losse to our common-wealth, & in particular, to the owners of Lordships, which Landlords themselves might easily amend, by granting longer terme, and better assurance to their Tenants, who haue taken by this Proverbe, Borch and sic, Build and sit:

Compared with a Vineyard.

Compared with a garden

What quantity of ground. Want is no hindrance. How Landlords, by their tenants may make flourishing orchards in England.

for who will build, or plant for another mans profit: Or the Parliament might enioyne euery occupier of grounds, to plant and maintaine for so many acres of fruitfull ground, so many seuerall trees or kind of trees for fruit. Thus much for quantity.

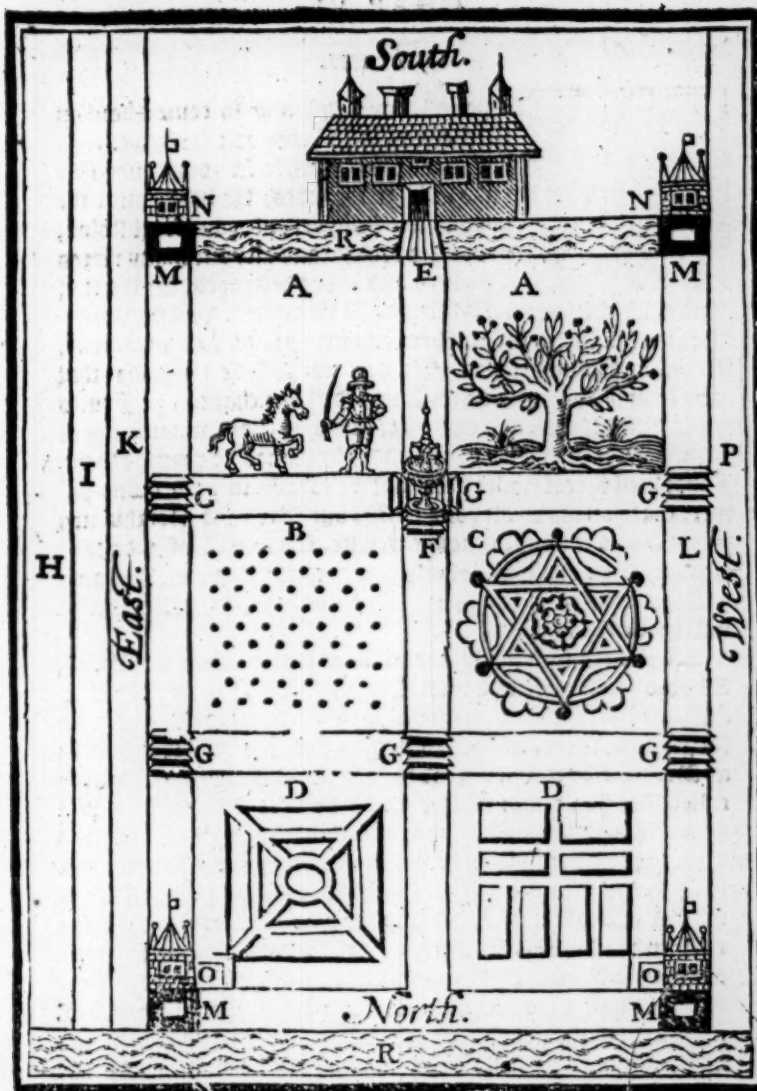
CHAP. V.

Of the Forme.



The v.
suall
forme is
a square.

The goodnesse of the Soile, and Site, are necessary to the well being of an Orchard simply, but the forme is so farre necessary, as the owner shall thinke meet, for that kind of forme wherewith euery particular man is delighted, we leaue it to himselfe, *sum cuique pulchrum*. The forme that men like in generall is a square, for although roundnesse be *forma perfectissima*, yet that principle is good where necessity by art doth not force some other forme. Now for as much as one principall end of Orchards is recreation by walkes, and vniuersally walkes are straight, it followes that the best forme must be square, as best agreeing with straight walkes: yet if any man be rather delighted with some other forme, or if the ground will not beare a square, I discommend not any forme so it bee formall. And a square may be drawn out of any forme to make straight walkes; and no forme of it selfe is either good or bad for the trees. If within one large square the Gardiner shall make one round labyrinth or Maze with some kind of Berries, it will grace your forme, so there be sufficient roomth left for walkes, so will foure or more round knots doe. For it is to be noted, that the eye must be pleased with the forme. I haue seene squares rising by degrees with staires from your house-ward, according to this forme which I haue, *Crassa quod aiant Alinyra*, With an vnsteady hand, rough between, for in forming the Country Gardiners, the better sort may vse better formes, and more costly worke. What is needfull more to be said, I referre that all (concerning the Forme,) to the chapter. 17. of the ornaments of an Orchard.



A. All these squares must bee set with trees, the Gardens & other ornaments must stand in spaces betwixt the trees, & in the borders and fences.

B. Trees 20. yards asunder.

C. Garden knot.

D. Kitchen garden.

E. Bridge.

F. Conduit.

G. Staires.

H. Walkes set with great wood thicke.

I. Walkes set with great wood round about your Orchard.

K. The out fence.

L. The out fence set with stone fruit.

M. Mount. To force earth for a mount, or such like, set it round with quick, and lay boughs of trees strangely intermingled, tops inward with the earth in the middle

N. Still-house.

O. Good standing for Bees, if you haue an house.

P. If the Riuer run by your doore, and vnder your mount it will be pl. asant.

CHAP. VI.

Of Fences.

Effect of
euill fen-
ces.



Let the
fence be
your
owne.

Kinds of
fences.
Earthen
walls.

All your labour past and to come about an Orchard is lost vnlesse you fence well. It shal grieue you much to see your young sets rubb lose at the roots, the barke pild, the boughs and twigs crott, your fruit stolne, your trees broken, and all your many yeres Labours and hopes destroyed, for want of Fences. A chiefe care must be had in this point. You must therfore plant in such a soile, where you may prouide a convenient, strong, and samely fence. For you can possesse no gods, that haue so many enemies as an Orchard, looke chapt. 13. Fruits are so delightfome, and desired of so many (nay, in a manner of all) and yet few will be at cost and take paines to prouide them. Fence well therfore, let your plot be wholly in your owne power, that you make all your fence your selfe: for Neighbours fencing is none at all, or very carelesse. Take heed of a doore or window (yea of a wall) of any other mans into your Orchard: yea, though it be nailed vp, or the wall be high, for perhaps they will proue thæues.

All Fences commonly are made of Earth, Stone, Bricks, Wood, or both earth and wood. Dry wall of earth, and dry Ditches, are the worst fences saue pales or railes, and doe waste the sonest, vnlesse they be well copt with gloue and mortar, whereon a Highill-tide it will be good to sow Wall flowers, commonly called Bee-flowers, or winter Silly-flowers, because they will grow (though amongst stones) and abide the strongest frost and drought, continually greene and flowering euen in Winter, and haue a pleasant smell, and are timely, (that is, they will floure the first and last of flowers) and are good for Bees. And your earthen wall is good for Bees dry and warme. But these fences are both vnfamily, euill to repaire, and onely for need, where stone or wood cannot be had. Whosoever makes such Walls, must not pill the ground in the Orchard, for getting earth, nor make any pits or hollowes, which are both vnfamily and vnprofitable. Old dry earth mixt with sand is best for these.

This

This kinde of wall will soone decay, by reason of the trées which grow nére it, for the roots and boales of great trées, will increase, vndermine, and ouerturne such wals, though they were of stone, as is apparant by Ashes, Konntrées, Burt-trées, and such like, carried in the chat, or berrie, by birds into stone wals.

Fences of Dead-wood, as pales, will not last, neither will railes either last or make good fence.

Pale and
Raile.
Stone
walls.

Stone walls (where stone may be had) are the best of this sort, both for fencing, lasting, and shrouding of your young trées. But about this must you bestow much paines and moze cost, to haue them handsome, high and durable.

But of all other (in mine opinion) Quickwood, and Poates or Ditches of Water, where the ground is leuell, is the best fence. In vnequall grounds, which will not képe water, there a double ditch may be cast, made streight and leuell on the top, two yards broad for a faire walke, five or six foot higher then the soyle, with a gutter on either side, two yards wide, and foure foot dépe set without, with three or foure chesse of Thoznes, and within with Cherry, Plumme, Damson, Bullys, Filberds, (for I loue these trees better for their fruit, & as well for their soyme, as pruit) for you may make them take any soyme. And in every corner (and middle if you will) a mount would be raised, whereabout the wood may claspe, powdered with wood-binde: which will make with dressing a faire, pleasant, profitable, and sure fence. But you must be sure that your quicke thoznes either grow wholly, or that there be a supplie betime, either with planting new, or plashing the old where want is. And assure your selfe, that neither wood, stone, earth, nor water, can make so strong a fence, as this after 7. yeares growth.

Quicke
wood &
Moates.

Poates, fish-ponds, and (especially at one side a River,) within and without your fence, will affoord you fish, fence, and moisture to your trées, and pleasure also, if they be so great & dépe that you may haue Swans, & other water birds, good for deuouring of vermine, and a boat for many good uses.

Moates.

It shall hardly auaille you to make any fence for your Orchard, if you be a niggard of your fruit. For as liberality will saue it best from noysome neighbours, liberality I say is the best fence, so Justice must restraine rioters. Thus when your ground is tempered, squared, & fenced, it is thine to provide for planting.

CHAP. VII.

Of Sets.



There is not one point (in my opinion) about an Orchard more to be regarded, than the choice getting and setting of good plants, either for readinesse of hauing good fruit, or for continuall lasting. For whosoever shall faile in the choise of good Sets, or in getting, or gathering, or setting his Plants, shall neuer haue a good or lasting Orchard. And I take want of skill in this facultie to be a chiefe hinderance to the most Orchards, and to many for hauing of Orchards at all.

Slips.

Some for readinesse vse slips, which seldome take root: and if they doe take, they cannot last, both because their root hauing a maine wound will in short time decay the body of the tree: and besides that rootes being so weakely put, are soone nipt with drought or frost. I could neuer see (lightly) any slip but of Apples onely set for trees.

Bur-knot.

A bur-knot kindly taken from an Apple tree, is much better and surer. You must cut him close at the root end, an handfull vnder the knot, (Some vse in Summer about *Lammes* to circuncise him, and put earth to the knot with hay roaps, and in winter cut him off and set him, but this is curiosity, needlesse, and danger with remouing, and drought.) and cut away all his twigs saue one, the most principall, which in setting you must leane aboue the earth, burying his trunk in the crust of the earth for his root. It matters not much what part of the bough the twig growes out of. If it grow out of or neere the root end, some say such an Apple will haue no coare nor kernell. Or if it please the Planter, he may let his bough be crooked, and leane out his top end, one foot or somewhat more, wherein will be good grafting, if either you like not, or doubt the fruit of the bough (for commonly your Bur-knots are Summer fruit) or if you thinke he will not, couer his wound safely.

Vsuall Sets.

The most vsuall kinde of Sets, is Plants with rootes growing of kernels of Apples, Peares, and Crabs, or stones of Cherries, Plummes, &c. remoued out of a Nursery, Wood, or other Orchard, into, and set in your Orchard in their due places.

I grant this kinde to be better than either of the former, by much, as more sure and more durable. Herein you must note, that in sets so removed, you get all the rootes you can, and without bursling of any; I utterly dislike the opinion of those great Gardiners, that following their Bookes would haue the maine rootes cut away, for tops cannot grow without roots. And because none can get all the rootes, and removal is an hindrance, you may not leaue on all tops, when you set them: For there is a proportion betwixt the tap and root of a tree, euen in the number (at least) in the growth. If the rootes be many, they will bring you many tops, if they be not hindered. And if you vse to stowe or top your tree too much or too late, and leaue no issue, or little for sap, (as is to be seene in your hedges) it will hinder the growth of roots and boale, because such a kinde of stowing is a kinde of smothering, or choaking the sap. Great wood, as Oake, Elm, Ash, &c. being continually kept to stowe, with sheeres, knife, axe, &c. neither boale nor root will thriue, but as an hedge or bush. If you intend to graffe in your set, you may cut him closer with a greater wound, and nearer the earth, within a foot or two, because the graft or grafts will couer his wound. If you like his fruit, and would haue him to be a tree of himselfe, be not so bold: this I can tell you, that though you doe cut his top close, and leaue nothing but his buske, because his rootes are few, if he be (but little) bigger than your thumb (as I with all plants removed to be) he will safely recover his wound within seven yeeres, by good guidance that is: At the next time of dressing immediately about his uppermost sprig, you cut him off adoope cleanly, so that the sprig stands on the backe side, (and if you can soothward, that the wound may haue the benefit of Sunne) at the upper end of the wound: and let that sprig vnto be the boale. And take this for a generall rule, Every young plant, if he thrives, will recover any wound about the earth, by good dressing, although it be to the one halfe, and to his very heart. This most cutting at the remouer, saues your plants from blinde, and made the lesse or no straking. I commend not Tying or Leaning of Trees against Posts or Stakes; for it breeds abstraction of Sappe and wounds incurable. All removing of Trees as great as your arm, or above, is dangerous: though some time

Maine
rootes cut.
Stow
sets re-
moued.

Generall
rule.

Tying
of Trees.
Generall
rule.

Signes
of disea-
ses. Cha.
13.

time some such will grow, but not continue long: Because they be tainted with deadly wounds, either in the root or top. (And a tree once thoroughly tainted is neuer good.) And though they get some hold in the earth with some lesser taw, or talves, which giue some nourishment to the body of the tree: yet the heart being tainted, he will hardly euer thriue; which you may easily discern by the blacknesse of the boughs at the heart, when you dresse your trees. Also, when he is set with more tops than the rootes can nourish, the tops decaying, blacken the boughs, and the boughs the armes, and so the boale at the very heart. Or this taint in the remouall, if it kill not presently, but after some short time, it may be discerned by blacknesse or yellownesse in the barked, and a small hungred leafe. Or if your remoued plant put forth leaues the next and second Summer, and little or few sprays, it is a great signe of a taint, and next yeares death. I haue knowne a tree tainted in setting, yet grow, and beare blossomes for diuers yeeres: and yet for want of strength could neuer shap his fruit.

Suckers
good
sets.

Pert unto this, or rather equall with these Plants, are Suckers growing out of the rootes of great Trees, which Cherries & Plummes doe seldome or neuer want: and being taken kindly with their roots, will make very good Sets. And you may helpe them much by enlarging their rootes with the talves of the tree, whence you take them. They are of two sorts: Either growing from the very root of the tree: and here you must be carefull, not to hurt your tree when you gather them, by ripping amongst the rootes; and that you take them cleane away: for these are a great and continuall annoyance to the growth of your tree: and they will hardly be cleansed. Secondly, or they doe arise from some taw: and these may be taken without danger, with long and good rootes, and will soone become Trees of strength.

A Run-
ning
Plant.

There is another way, which I haue not thoroughly proued, to get not only Plants for grafting, but Sets to remaine for Trees, which I call a Running Plant: the manner of it is this: Take a Rote or kinnell, and put it into the middle of your plot, and the second yeare in the Spring, geld his top, if he haue one principall, (as commonly by nature they haue) and let him put forth only foure Cyons toward the foure corners of the Orchard,

Orchard, as were the earth as you can. If hee put not foure, (which is rare) lay his top till he haue put so many. When you haue such foure, cut the stocke aslope, as is aforesaid in this Chapter, hard about the uppermost sprig, and keepe those foure without Cyons cleane and streight, till you haue them a yard and an halfe, at least, or two yards long. When the next spring in grafting time, lay downe those foure sprales, towards the foure corners of your Orchard, with their tops in an heape of pure and good earth, raised as high as the root of your Cyon, (so lay will not descend) and a sod to keepe them downe, leaving nine or twelve inches of the top to looke upward. In that hill he will put roots, and his top new Cyons, which you must spread as befoze, and so from hill to hill till hee spread the compasse of your ground, or as farre as you list. If in bending, the Cyons cracke, the matter is small, cleanse the ground and hee will reconer. Euery bended bough will put forth branches, and become Trees. If this Plant be of a burre knot, there is no doubt. I haue proued it in one Branch my selfe: and I know at Wilton in Cleue-land a Peare-tree of a great bulke and age, blowne close to the earth, hath put at euery knot rootes into the earth, and from root to top, a great number of mighty armes or trees, filling a great roomth, like many trees, or a little Orchard. Much better may it be done by Art in a lesse Tree. And I could not mislike this kinde, saue that the time will be long befoze it come to perfection.

Many vse to buy Sets already grafted, which is not the best way: for first, All remoues are dangerous: Again, there is danger in the carriage: Thirdly, it is a costly course of Planting: Fourthly, euery Gardiner is not trusty to sell you good fruit: Fifthly, you know not which is best, which is worst, and so may take most care about your worst trees. Lastly, this way keeps you from practise, and so from experience, in so good, Gentlemanly, Scholerlike, and profitable a Faculty.

The onely best way (in my opinion) to haue sure and lasting Sets, is neuer to remoue: for euery remoue is an hinderance, if not a dangerous hurt or deadly teint. This is the way: The Plot forme being laid, and the Plot appointed where you will plant euery Set in your Orchard; dig the roomth, where your Sets shall stand, a yard compasse, and

Settes
bought.

The best
Sets.

Vnre-
moued
how.

and make the earth mellow and cleane, and mingle it with a few coals ashes, to amaine the same: and immediately after the first change of the Spone, in the latter end of February, the earth being a fresh turned ouer, put in every such rowth three or foure Birkells of Apples or Peares, of the best: euery Birkell in an hole made with your finger, finger deepe, a foot distant one from another: and that day Soneth following, as many moe, (less some of the former misse) in the same compasse; but not in the same holes. Hence (God willing) shall you haue rootes enough. If they all, or diuers of them come vp, you may draw (but not dig) vp (not put downe) at your pleasure, the next Nouember. Whomany soeuer you take away, to giue or bestow else where, be sure to leaue two of the proudest. And when in your second and third yeere you Gasse (if you Gasse then at all) leaue the one of those two vngrafted, lest in grafting the other you faile: For I finde by tryall, that after first or second grafting in the same Stocke, being mist (for who hits all) the third misse puts your Stocke in deadly danger, for want of issue of sap. Yea, though you hit in grafting, yet may your grasses wither: and otherwise bee broken downe. If your grasses or grafts prosper, you haue your desire, in a Plant vnrremoued, without taint, and the fruit at your owne choise, and so you may (some little earth being remoued) pull, but not digge vp the other Plant or Plants in that roonith. If your grasse or Stocke, or both perish, you haue another in the same place, of better strength to worke vpon. For thining without snub hee will overlay your grafted Stocke much. And it is hardly possible to misse in grafting so often, if your Gardiner be worth his name.

Sets vn-
grafted
best of
all,

It shall not bee amisse (as I iudge it) if your Birkells be of choise fruit, and that you let them come forthward prouidly in their body, and beare a faire and broad leafe in colour, tending to a greenish yellow (which argues pleasant and great fruit) to try some of them vngrafted: for although it be a long time ere this come to beare fruit, ten or twelue yeeres, or moe; and at their first bearing, the fruit will not seeme to bee like his owne kinde: yet am I assured, vpon tryall, before twenty yeeres growth, such Trees will increase the bignesse and goodnesse of their fruit, and come perfectly to their owne kinde.

Trees

Trees (like other breeding creatures) as they grow in yeeres, bignes, and strength, so they mend their fruit. **Husbands and Husbandines** finde this true by experience, in the rearing of their young **Stoats**. **Howe** then this, there is no tree like this for soundnesse & durable last, if his keeping and dressing be answerable. I grant, the readiest way to come sone to fruit is grafting: because in a manner, all your **Graffes** are taken of fruit-bearing **Trees**.

How when you haue made choise of your **Setts** to remoue, the ground being ready, the best time is, immediately after the fall of the **Leafe**, in, or about the change of the **Mone**, when the sap is most quiet: for then the sap is in turning: for it makes no stay, but in the extremity of drought or cold. At any time in winter, may you transplant trees, so you put no Ice nor Snow to the roote of your plant in the setting: and therefore open, calme, and moist weather is best. To remoue, the leafe being ready to fall and not fallen, or buds apparantly put forth in a moist, warme season, for need, sometime may doe well: but the safest is to walke in the plaine trodden path.

Time of
remo-
uing.

Generall
rule.

Some hold opinion that it is best remouing befoze the fall of the leafe, and I heare it commonly so practised in the South by our best **Arborists**, the leafe not fallen: & they giue the reason to be, that the descending of the sap will make speedy roots. But marke the reasons following, and I thinke you shall find no soundnes, either in that positio or practise, at least in the reason.

1. I say, it is dangerous to remoue when the sap is not quiet, for euery remoue giues a main checke to the stirring sap, by staying the course thereof in the body of your plant, as may appeare in trees remoued any time in Summer, they commonly die, nay hardly shall you saue the life of the most young and tender plant of any kind of wood (scarcely herbes) if you remoue them in the pride of sap. For proud sap vniuersally stayed, by remouall, euer hinders, often taints, and so presently, or in very short time kills. Sap is like blond in mans body, in which is the life, Cap. 3. pag. 8. If the blond vniuersally be cold, life is excluded; so is sap tainted by vntimely remouall. A stay by drought, or cold, is not so dangerous (tho dangerous if it be extreme) because moze naturall.

2. The sap neuer descends, as men suppose, but is consollidated and transubstantiated into the substance of the tree, and

passeth (alwayes above the earth) upward, not only betwixt the barke and the wood, but also into & in both body and barke, tho not so plentifully, as may appeare by a tree budding, nay fructifying 2. or 3. yeeres, after he be circumcised, at the very root, like a River that enlargeth his channell by a continuall descent.

3. I cannot perceiue what time they would haue sap to descend. At Midsummer in a biting drought it staies, but descends not, for immediatly by moisture it makes second shoots, at (or before rather) Michaelmas, when it shapens his buds for next yeeres fruit. If at the fall of the leafe, I grant, about that time is the greatest stand (but not descent) of sap, which begins somewhat before the leafe fall, but not long, & therefore at that time must needs be the best remouing, not by reason of the descent, but stay of sap.

4. The sap in his course hath his profitable and apparent effects, as the growth of the Tree; couering of wounds, putting of buds, &c. Whereupon it followes, if the sap descend, it must needs haue some effect to shew it.

5. Lastly, boughs plasht and laid lower than the root, die for want of sap descending, except where it is forced by the maine stream of the sap, as in top boughs hanging like water in pipes, or except the plasht bough lying on the ground put roots of his owne, yea vnder boughs which wee commonly call water-boughs, can scarcely get sap to liue, yea in time dye, because the sap both presse so violently upward, and therefore the fairest shoots and fruit are alwayes in the top.

Object. If you say that many so-remoued thine, I say that somewhat before the fall of the leafe (but not much) is the stand, for the fall and the stand are not at one instant, before the stand is dangerous. But to returne.

Remoue
soone.

The sooner in Winter you remoue your Sets, the better; the latter the worse: For it is very perillous if a strong drought take your Sets before they haue made good their rooting. A Plant set at the Fall, shall gaine (in a manner) a whole yeeres growth of that which is set in the Spring after.

The
manner
of set-
ting.

I vse in the setting to bee sure, that the earth bee mouldy, (and somewhat moist) that it may ruine among the small tangles without straining or bruising: and as I fill in earth to his root, I shake the Set easily to and fro, to make the earth settle the better to his roots: and withall easily with
my

my foot I put in the earth close; for ayze is noysome, and will follow conuities. Some prescribe Dates to be put in with the earth. I would like it, if I could know any reason thereof; and they be to set their Plant with the same side toward the Sun: but this conceit is like the other. For first I would haue euery tree to stand so free from shade, that not onely the root (which therefore you must keepe bare from grasse) but body, boughes, and branches, and euery spray, may haue the benefit of Sun. And what hurt, if that part of the tree, that before was shadowed, be now made partaker of the heat of the Sun? In turning of Wers, I know it is hurtfull, because it changeth their entrance, passage, and whole worke: But not so in Trees.

Set as Deepe as you can, so that in any wise you goe not beneath the crust. Locke Chap. 2.

Set in
the crust.
Moyster
good.

We spake in the second Chapter of moysture in generall: but now especially hauing put your remoued plant into the earth, powre on water (of a puddle were good) by disilling presently, and so euery weeke twice in strong drought, so long as the earth will drinke, & refuse by ouerflowing: For moysture mollifies, & both giues leaue to the roots to spread, & makes the earth yeld say and nourishment, with plentie & facilitie. Purser (they say) giue most and best milke after warme dringes. If your ground be such that it will keepe no moysture at the root of your plant, such plant shall neuer like, or but for a time. There is nothing more hurtfull for young trees than piercing drought. I haue knowne trees of good stature after they haue bene of diuers yeares growth, and thriue well for a good time, perish for want of water, and very many by reason of faines in setting.

It is meet your setts and grafts be fenced, till they be as big as your arme, for feare of annoyances. Many waies may setts receiue dammages, after they be set, whether they be grafted or ungrafted. For, although we suppose, that no noysome beast, or other thing must haue accesse among your trees: yet by casualtie, a Dog, Cat, or such like, or your selfe, or negligent friend bearing you company, or a shrewd boy, may tread or fall vpon a young and tender plant or graft. To auoid these and many such chances, you must stake them round a prettie distance from the set, neither so neere, nor so thicke, but that it may haue the benefit of Sunne, raine, and aite.

Grafts
must be
fenced.

Your stakes (small or great) would be so surely put, or driven into the earth, that they breake not, if any thing happen to leane upon them, else may the fall be more hurtfull, than the want of the fence. Let not your stakes shelter any weeds about your sets, for want of Dunne is a great hinderance. Let them stand so far off, that your grafts spreading receive no hurt, either by rubbing on them, or of any other thing passing by. If your Roke be long, and high grafted (which I much discommend (except in need) because there the sap is weake, and they are subject to strong wind, and the lighting of birds) tie easily with a soft list three or foure pickes vnder the clay, and let their tops stand aboue the grafts, to auoid the lighting of Crows, Pyes, &c. upon your grafts. If you sticke some sharpe thornes at the roots of your stakes, they will make hurtfull things keepe off the better. Other better fences for your grafts I know none. And thus much for sets and setting.

CHAP. VIII.

Of the distance of Trees.

I know not to what end you should provide good ground, well fenced, & plant good sets; & when your trees should come to profit, haue all your labours lost, for want of due regard to the distance of placing of your trees. I haue seene many trees stand so thicke, that one could not thriue for the throng of his neigh-

Hurts of
tooneere
planting.

bours. If you doe marke it, you shall see the tops of trees rubb off, their sides galled like a galled horses backe, and many trees haue more stumps than boughs, and most trees no well thriuing, but short, stumpy, & euill thriuing boughs: like a Cozne-field over-seeded, or a towne over-peopled, or a pasture over-laid, which the Gardiner must either let grow, or leaue the tree very few boughs to beare fruit. Hence small thrist, galls, wounds, diseases, and short life to the trees: and while they liue greene, little, hard, worme-eaten, and euill thriuing fruit arise, to the discomfort of the owners.

Remedy.

To prevent which discomfortie, one of the best remedies is, the sufficient & fit distance of trees. Wherefore at the setting of your plants you must haue such a respect, that the distance of them

them be such, that every tree be not amouſance, but an helpe to his fellowes: for trees (as all other things of the ſame kinde) ſhould ſhadow, and not hurt one another. And aſſure your ſelfe, that every touch of trees (as well under as above the earth) is hurtful. Therefore this muſt be a generall rule in this Art: That no tree in an Orchard well ordered, nor bough, nor Wyon, nor ſpan, or touch his fellowes. Let no man thinke this impoſſible, but looke in the ſeventh chapter of dreſſing of trees. If they touch, the winde will cauſe a forcible rub. Young ſtwigs are tender, if boughs or armes touch and rub, if they are ſtrong, they make great galls. No kinde of touch therefore in trees can be good.

Now it is to be conſidered what diſtance amongſt ſets is requiſite, and that muſt be gathered from the compaſſe and rowneth, that each tree by probability will take and fill. And herein I am of a contrary opinion to all them, which praetiſe or teach the planting of trees, that ever yet I knew, read, or heard of. For the common ſpace betwixt trees and trees is ten foot, or twenty foot, it is thought very much. But I ſuppoſe twenty yards diſtance is ſmall enough betwixt tree and tree, or rather too little. For the diſtance muſt needs be as far as two trees are well able to ſtretch ſpread, and fill, ſo they touch not, by one yard at leaſt. Now I am aſſured, and I know one Apple-tree, ſet of a ſlip ſixteen years in the ſpace of twenty yeares, (which I count a very ſmall part of a trees age, as is ſhewed Chapter 14.) hath ſpred his boughs eleven or twelve yards compaſſe, that is, ſix or ſeven yards on every ſide. Hence I gather, that in forty or fifty yeares (which yet is but a ſmall time of his age) a tree in good ſoile, well liking, by good dreſſing (for that is much available to this purpoſe) will ſpread double at the leaſt, viz. twelve yards on a ſide, which being added to twelve allotted to his fellow, make twenty and ſoure yards, and ſo farre diſtant muſt every tree ſtand from another. And looke how farre a tree ſpreads his boughs above, ſo far doth he put his roots under the earth, or rather ſurther, if there be no ſtop, nor let by walls, trees, rocks, barren earth, and ſuch like: for an huge bulk, and ſtrong armes, many boughs, many branches, and infinite twigs, require wide ſpreading roots. The top hath the beſt aſſe to ſpread his boughs in, high and low, this way and that way: but the roots are kept in the cruſt of the earth, they may not goe downeward, nor upward

Generall rule.
All touches hurt full.

The beſt diſtance of trees.

Parts of a tree.

upward out of the earth, which is their element, no more than the Fish out of the Water, Camellion out of the Aire, nor Salamander out of the Fire. Therefore they must needs spread far vnder the earth. And I dare well say, if nature would giue leane to man by Art, to dresse the roots of trees, to take away the tawes, and tangles, that lap and fret and grow superfluously and disorderly, (for enery thing *sublunary* is cursed for mans sake) the tops aboue being answerably drested, we should haue trees of wonderfull greatnesse, and infinite durance. And I perswade my selfe that this might be done sometimes in Winter, to trees standing in faire plaines and kindly earth, with small or no danger at all. So that I conclude, that twenty foure yards are the least space that Art can allot for trees to stand distant one from another.

Waste
ground
in an or-
chard.

If you aske me what vse shall be made of that waste ground bettwixt tree and tree: I answer: If you please to plant some tree or trees in that middle space, you may, and as your trees grow contiguous, great and thicke, you may at your pleasure take by those last trees. And this I take to be the chiefe cause, why the most trees stand so thicke. For men not knowing (or not regarding) this secret of needfull distance, and louing fruit of trees planted to their hands, thinke much to pull by any, though they pine one another. If you or your heires or successors would take by some great trees (past setting) where they stand so thicke, be sure you doe it about midsummer, and leane no maine rootes. I destinate this space of foure and twenty yards, for trees of age and stature. More than this, you haue vnder to be made for walkes, with Roses, Berries, &c.

And chiefly consider: that your Orchard, for the first twenty or thirtie paces, will serue you for many Gardens, for Astron, Alcozas, roots, and other herbes for profit, and flowers for pleasure: so that no ground need be wasted if the Gardiner be skillfull and diligent. But be sure you come not nere with such deepe delving the rootes of your trees, whose compasse you may partly discern, by the compasse of the tops, if your top be well spread. And vnder the droppings and shadow of your trees, be sure no herbes will like. Let this be said for the distance of Trees.

CHAP.

CHAP. IX.

Of the Placing of Trees.

The placing of Trees in an Orchard is well worth the regard: For although it must be granted, that any of our foresaid Trees (chap. 2.) will like well in any part of your Orchard, being good and well dressed earth: yet are not all Trees alike worthy of a good place. And therefore I with that your Filberd, Plummes, Damsons, Bolese, and such like, be utterly removed from the plaine soile of your Orchard into your fence: for there is not such fertility and easfull growth, as within: and there also they are moze subiect, and can better abide the blasts of Eolus. The Cherries and Plummes being ripe in the hot time of Summer, and the rest standing longer, are not so soon shaken as your better fruit: neither if they suffer losse, is your losse so great. Besides that, your fences and ditches will deuoure some of your fruit growing in or nere your hedges. And seeing the continuance of all these (except Rats) is small, the care of them ought to be the lesse. And make no doubt, but the fences of a large Orchard will containe a sufficient number of such kind of Fruit-trees in the whole compasse. It is not materiall, but at your pleasure, in the said fences, you may either intermingle your severall kinds of fruit-trees, or set every kind by himselfe, which order doth very wel become your better and greater fruit. Let therefore your Apples, Peares, and Quinces, possesse the soile of your Orchard, vntil you be especially affected to some of your other kinds: and of them let your greatest Trees of growth stand furthest from Sunne, and your Quinces at the South side or end, and your Apples in the middle, so shall none be any hindrance to his fellowes. The Warden-tree, and winter Peare will challenge the preheminnence for stature. Of your Apple-trees you shall finde difference in growth. A good Pippin will grow large, and a Colliard tree: stand them on the South side of your other Apples, thus being placed, the least will gaine Sun to the rest, and the greatest will shroud their fellowes. The fences and out-trees will guard all.



CHAP. X. Of Grafting.

Of gra-
uing or
caruing.

Grafting
what,



A Grafte

Kinds of
grafting.

NOW are we come to the most curious point of our faculty: curious in conceit, but indeed as plaine and easie as the rest, when it is plainly shewne, which we commonly call Grafting, or (after some) Grasing. I cannot Etymologize, nor shew the originall of the word, except it come of graining and caruing. But the thing or matter is: The reforming of the Fruit of one Tree with the fruit of another, by an artificiall transplanting or transposing of a twig, bud or leafe, (commonly called a Graft) taken from one tree of the same, or some other kind, and placed or put to, or into another tree in due time and manner.

Of this there be diuers kinds, but three or foure now especially in vse: to wit, Grafting, Inclinig, packing on, grafting in the scutcheon, or Inoculating: whereof the chiefe and most vsuall, is called grafting (by the generall name, *Catachresis*) for it is the most knowne, surest, readiest, and plainest way to haue store of good fruit.

It is thus wrought: You must with a fine, thin, strong, and sharpe Saw, made and armed for that purpose, cut off a foot above the ground, or thereabouts, in a plaine without a knot, or as neere as you can without a knot (for some Stockes will be knotty) your Stocke, let or plant, being surely stayed with your foot and legges, or otherwise streight overthwart (for the Stocke may bee cracked) and then plaine his wound, mainly with a sharpe knife: that done, cleane him cleanly in the middle with a cleauer, and a knocke or mallet, and with a wedge of wood, Iron or Bone, two handfull long at least, put into the middle of that cleft, with the same knocke, make the wound gape a faine breadth wide, into which you must put your Graftes.

The graft is a top twigge taken from some other Tree (for it is folly to put a grasse into his owne Stocke) beneath the uppermost (and sometime in need the second) knot, and with a sharpe knife fitted in the knot (and sometime out of the knot to be made so) with shoulders in ynterward, and so put into the Stock with some thrusting (but not straining) barke to barke inward.

Let your grasse have three or foure eyes, for readinesse to put forth, and giue issue to the sap. It is not amisse to cut off the top of your grasse, and leaue it but fine or five inches long, because commonly you shall see the tops of long grasses die. The reason is this: The sap in grafting receiues a rebuke, and cannot worke so strongly presently, and your grasses receiue not sap so readily, as the naturall branches. When your grasses are cleanly and closely put in, and your wedge pulled out nimbly, for feare of putting your grasses out of frame, take well tempered mortar, soundly wrought with chaffe or hosedung (for the dung of cattell will grow hard, and straine your grasses) the quantity of a Gosse egge, and diuide it in six, and there to withall, coner your Stocke, laying the one halfe on the one side, and the other halfe on the other side of your grasses (for thrusting against your grasses) you moue them, and let both your hands thrust at once, and alike, & let your clay be tender, to yeld easily; and all, lest you moue your grasses. Some vse to coner the cleft of the Stocke, under the clay with a peece of barke or leafe, some with a sear-cloth of waxe and butter, which is they be not much need.

A Graft
whar.

Eyes.

Generall
Rule.

Time of
grafting.

Gathe-
ring
graftes,

Graftes
of old
trees.

fall, so they hurt not, but lesse that by being buſſe about them, you
moue your graſſes from their places. They doe also moſte ty-
ed on above the clay with ſome tiler, wither, or other bands.
Theſe profit nothing: They all put the graſſes in danger, with
pulling and thruſting: for I hold this generall rule in graſſing,
and planting: if your ſtocke and graſſes take, and thyme (for
ſome will take, and not thyme, being tainted by ſome meanes in
the planting, as graſſing) they will (without doubt) recouer
their wounds ſafely and ſhortly.

The beſt time of graſſing from the time of removing your
ſtocke is the next Spring, for that ſaueth a ſecond wound, and
a ſecond repulſe of ſap, if your ſtocke bee of ſufficient bigneſſe
to take a graſſe from as big as your thumb, ſo big as an
arme of a man. You may graſſe leſſe (which I like) and bigger,
which I like not ſo well. The beſt time of the yeere is in the laſt
part of February, or in March, or beginning of April, when the
Sunne with his heat, beſinnes to make the ſap ſtirre more
rantly, about the change of Moneth before you ſee any great
apparyance of leaſe or ſowers, but onely knots and buds, and
before they be proud, though it be ſoner. Cherries, Peares, Ap-
picocks, Quinces and Plummes would be gathered and graf-
ted ſoner.

The graſſes may be gathered ſoner in February, or any time
within a moneth, or two before you graſſe, or upon the ſame
day (which I commend) If you get them any time before, for I
haue knowne graſſes gathered in December, and doe well, take
heed of brought, I haue my ſelfe taken a bur knot of a tree, and
the ſame day when he was laid in the earth about mid Febru-
ary, gathered graſts and put in him, and one of theſe graſſes
bore the third yeare after, and the fourth plentifully. Graſſes of
old Trees would be gathered ſoner than of young trees, for they
ſoner bzeake and bud. If you keepe graſſes in the earth, moſt
ſure with the heat of the Sunne will make them ſpout as faſt,
as if they were growing on the tree. And theſe ſeing keep-
ping is dangerous, the ſureſt way (as I iudge) is to take them
with in a weeke of the time of your graſſing.

The graſts would be taken not of the proudeſt twigs, for it
may be your ſtocke is not anſwerable in ſtrength. And there-
fore (ſay I) the graſts brought from South to be in the North,
although

although they take and thrive (which is somewhat doubtful, Where taken.
 by reason of the difference of the Climate and carriage) yet shall they in time fashion themselves to our cold Northern Soyle, in growth, taste, &c. For of the power, for want of strength may make them unable to receive sap (and who can tell but a poore graft is tainted) nor on the outside of your tree, for there should your tree spread but in the middle: for there you may be sure your Tree is no whit hindered in his growth by forme. Hee will still recover inward, more than you would wish. If your clay clift in summer with drought, take well in the Chinkes for Emmites and Carewigs, for they are cunning and close thieves, about grafts you shall finde them stirring in the morning or evening, and the rather in moist weather. I have had many young buds of Grasses, even in the flourishing, eaten with Ants. Let this suffice for grafting, which is in the faculty counted the chiefe secret, and because it is most usuall, it is best knowne.

Grafts are not to be disliked, for growth, till they wither, pine, and die. Usually before midsummer they breake, if they live. Some (but few) keeping proud and graine, will not put till the second yeare, so is it to be thought of sets.

The first shew of putting is no sure signe of growth it is but the say the grafted brought with him from his tree.

As soone as you see the graft put for growth, take away the claie, for then doth neither the stocke nor the grafted need it (put a little fresh well-tempered claie in the hole of the stocke) for the claie is now tender, and rather keepe moisture than drought.

The other waies of changing the naturall fruit of Trees, are more curious than profitable, and therefore I minde not to be slow much labour or time about them, onely I shall make knowe what I have pruned, and what I doe thinke.

And first of incising, which is the cutting of the backe of the boale, a rine or branch of a tree at some bending or knee, roundwise with two gashes, onely with a sharpe knife to the wood: then take a wedge, the bignesse of your grafted sharpe ended, flat on the one side, agreeing with the tree, and round on the other side, and with that being thrust in, raise your backe, then

Emmites.

Incising.

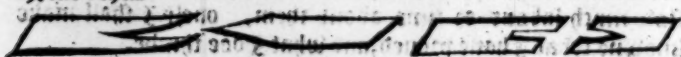
A great
stocke.

then put in your grasse, fashioned like your wedges last: and lastly couer your wound, and fast it up, and take heed of straining. This will grow but to small purpose, for it is weak hold, and lightly it will be under growth. Thus may you graft betwixt the barke and the tree of a great stocke that will not easily be lifted: But I have tried a better way for great trees, viz. First, cut him off straight, and cleave him with your knife, then cleave him into foure quarters, equally with a strong cleaver: then take so many Clifts two or three small (but hard) wedges last of the bignesse of your grasse, and with those wedges driven in with an hammer open the foure clifts: so wide (but no wider) that they may take your foure grasses, with thrusting, not with straining: and lastly couer and clay it closely, and this is a sure and good way of grafting: or thus, clift your stocke by his edges twice or thrice with your cleaver, and open him with your wedge in every clift one by one, and put in your grasse, and then couer them. This may doe well.

Packing
thus.

Packing on is, when you cut aslope a twig of the same bignesse with your graft, either in or besides the knot, two inches long, and make your graft agree sumpe with the Cyon, and gash your graft and your Cyon in the middle of the wound, lengthwise, a straw breadth deepe, and thrust the one into the other, wound to wound, sap to sap, barke to barke, then tie them close and clay them. This may doe well. The fairest graft I have in my little Orchard, which I have planted, is thus packt on, and the branch wherupon I put him, is his plentifull roote.

To be shoyt in this point, cut your graft in any sort or fashion, two inches long, and tyne him cleanly and close to any other sprig of any tree in the latter end of the time of grafting, when sap is somewhat rise, and in all probabilitie they will close and thine: thus



Inocula-
ting.

The sprig. The graft. The twig. The graft.
Or any other fashion you thinke good.

Inoculating is an eye or bud, taken barke and all from one tree, and placed in the ronne of another eye or bud of another, cut both of one compasse, and there bound. This must be done in summer, when the sap is proud.

Spuch

Such like unto this is that, they call grafting in the scutchion. They differ thus: That here you must take an eie with his leafe, or (in mine opinion) a bud with his leaues. (Note that an eie is for a Tree, a budde is for flowers and fruit.) and place them on another tree, in a plaine (for so they teach) the place or barke where you must set it must be thus cut with a sharpe knife, and the barke raised with a wedge, and then the eie or budde put in and so bound up. I cannot denie but such may grow. And your bud if he take wil stowe and beare fruit that yere: as some grafts and sets also, being set for bloomes. If these two kindes thrive, they reforme but a spray; and an order growth. Thus you may place Roses on Thornes, and Cherries on Apples, and such like. Many write much more of grafting, but to small purpose. Whom we leave to themselves, and their followers; and ending this secret we come in the next Chapter to a point of knowledge most requisite in an Arborescist, as well for all other woods as for an Orchard.

Grafting
in the
Scutchi-
on

CHAP. XI.

Of the right dressing of Trees.

If all these things aforesaid were indeed performed, as we have shewed them in words, you should have a perfect Orchard in nature and substance, begunne to your hand: And yet are all these things nothing, if you want that skill to dresse and keepe your trees. Such is the condition of all earthly things, whereby a man receiveth profit or pleasure, that they degenerate presently without good ordering. Man himselfe left to himselfe, growes from his heavenly & spirituall generation, and becommeth beastly, yea devilish to his owne kind; unless he be regenerate. So marnell then, if Trees make their shotes; and put their sprates disorderly. And truly (if I were worthy to iudge) there is not a mischiefe

Necessi-
ty of
dressing
trees.

Generall
rule.

chiefe that breedeth greater and more generall harme to all the Orchard (especially if they be of any continuance) than the want of the skillfull dressing of trees. It is a common and unskillfull opinion, and saying, Let all grow, and they will beare more fruit: and if you lop away superfluous boughes, they say, what a pitty is this? How many apples would these haue borne? not considering there may arise hurt to your Orchard, as well (nay rather) by abundance, as by want of wood. A sound and thriving plant in a good soyle, will ever yeld too much wood, and disorderly, but neuer too little. So that a skillfull and painfull Arbozist, need neuer want matter to effect a plentifull and well dressed Orchard: for it is an easie matter to take away superfluous boughes (if your Gardener haue skill to know them) where of your plants will yeld abundance, and skill will leaue sufficient well ordered. All ages both by rules and experience doe consent to a pruning and lopping of trees: yet haue not any that I know described vnto vs (except in darke and generall words, what or which are those superfluous boughes, which we must take away, and that is the chiefe and most needfull point to be knowne in lopping. And we may well assure our selues, (as in all other Arts, so in this) there is a vantage and dexterity, by skill, and an habit by practise out of experience, in the performance hereof for the profit of mankind, yet doe I not know (let me speake it with the patience of our cunning Arbozists) any thing within the compasse of humane affaires so necessary, and so little regarded, not only in Orchards, but also in all other timber trees, where or whatsoever.

Timber
wood c-
will dress.

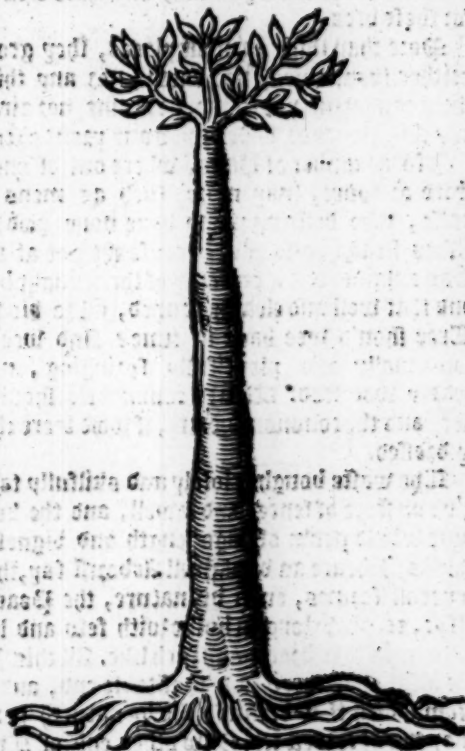
How many forests and woods: wherein you shall haue for one lively thriving tree, foure (nay sometimes 24.) euill thriving, rotten and dying trees, euen while they lue. And instead of trees thousands of bushes and shrubbes. What rottenesse? what hollownesse? what dead armes? withered tops? curtailed trunks? what loades of mooses? crouching boughes? and dying branches shall you see euery where? And those that like in this sort are in a manner all vnprofitable boughes, carked armes, crooked, little and short boales: what an infinite number of bushes, shrubs, and skrogs of hazels, thornes, and other profitable wood, which might be brought

brought by Dressing to become great and good Trees. Consider now the cause:

The lesser wood hath beene spoiled with carelesse, unskilfull, and untimely felling, and much also of the great wood. The greater Trees at the first rising haue filled and over-laden themselves with a number of wastfull boughs and suckers, which haue not onely drawne the sappe from the boale, but also haue made knots, and themselves and the boale mossie

for want of dressing, whereas if in the prime of growth they had beene taken away close, all but one top (according to this pattern) and cleane by the bulke, the strength of all the sap should haue gone to the hulke, and so he would haue recovered and conered his knots, and haue put forth a faire, long and straight body (as you see) for timber profitable, huge great of bulke, and of infinite last.

If all timber Trees were such (will some say) how should we haue crooked wood for wheels, cozbs, &c.



The
cause of
hurts in
wood.

Imagine the root to be spread farre wider.

Dresse
timber
trees
how.

Ans^r. Dresse all you can, and there will be enough crooked for those vices.

More than this, in most places, they grow so thicke, that neither themselves, nor earth, nor any thing under, nor more than can thine, nor sunne, nor raine, nor aire can do them, nor any thing nere or vnder them any profit or comfort.

I see a number of Hags, where out of one roote you shall see three or foure, (nay more) such as mens vnskillfull greedynesse, who desiring many haue none good) pretty Dakes or Ashes, straight and tall, because the root at the first shoot giues way amaine: but if one only of them might be suffered to grow, and that well and cleanly pruned, all to his very top, what a Tree should wee haue in time? And wee see by those roots continually and plentifully springing, notwithstanding so deadly wounded. What a commodity should arise to the owner, and the common-wealth, if wood were cherished, and orderly dressed.

Profit of
trees
dressed.

The waste bought closely and skillfully taken away, would giue vs store of fences and setwell, and the bulke of the tree in time would grow of huge length and bignesse. But here (me thinks) I heare an vnskillfull Arbozist say, that trees haue their seuerall formes, euen by nature, the Pearre, the Holly, the Aspe, &c. grow long in bulke with seto and little armes: The Oke by nature broad, and such like. All this I grant: but grant me also, that there is a profitable end, and vse of euery tree, from which if it decline (tho by nature) yet man by art may (nay must) correct it. Now other end of Trees I neuer could learne, than good timber, fruit much and good, and pleasure. These physicaill hinder nothing a good forme.

The end
of trees.

Trees
will take
any
forme.

Neither let any man euer so much as thinke, that it is vnpro-
bable, much lesse vnpossible, to reforme any tree of what kinde
soeuer. For (beleeue me) I haue tried it, I can bring any tree
(beginning by time) to any forme. The Pearre and Holly may
be made to spread, and the Oke to close.

But why doe I wander out of the compasse of mine Orchard
into the Forrests and woods? Neither yet am I from my pur-
pose, if boales of timber trees stand in need of all the sap, to
make them great and freight (for strong growth and dressing
make strong trees) then it must needs be profitable for fruit (a
thing

thing more immediately serving a mans need) to haue all the sap his root can yeild: for as timber sound, great and long, is che good; of timber trees, and therefore they beare no fruit of woorth: so fruit, good, sound, pleasant, great and much, is the end of fruitfull trees. That Gardener therefore shall perfozme his duty skilfully and faithfully, which shall so dresse his Trees, that they may beare such and such stoze of fruit, which he shall neuer doe (I dare undertake) vnlesse he keepe this order in dressing his Trees.

The end
of trees.

A fruit Tree so standing, that there need none other end of dressing but fruit (not ornaments for walkes, nor delight to such as would please their eye only; and yet the best forme cannot but both adorne & delight) must be parted from within two foot (or thereabouts) of the earth, so high to giue liberty to dresse his root, and no higher, for drinking by the sap that should feede his fruit, for the boale will be first, and best serued and fed, because he is next the root, and of greatest ware and substance, and that makes him longest of life, into two, ~~thre~~, or foure armes, as your stocke or grasses yeild twigs, and euery arme into two or more branches, and euery branch into his seuerall Cyons, still spreading by equall degrees, so that his lowest spray be hardly without the reach of a mans hand, and his highest be not past 2. yards higher, rarely (especially in the middell) that no one twig touch his fellows. Let him spread as far as he list without any master-bough, or top equally. And when any bough doth grow sadder and fall lower, than his fellowes (as they will with weight of fruit) ease him the next spring of his superfluous twigs, and he will rise: when any bough or spray shall amount aboue the rest; either snub his top with a nip betwixt your finger and your thumbe, or with a sharpe knife, and take him cleane away, and so you may vse any Cyon you would reforme, and as your tree shall grow in stature and strength, so let him rise with his tops, but slowly, and early, especially in the middell, and equally, and in breadth also, and follow him upward with lopping his vnder growth and water-boughs, keeping the same distance of two yards, but not aboue ~~thre~~ in any wise, betwixt the lowest and highest twigs.

How to
dresse a
fruit tree

1 Thus shall you haue well liking, cleane skind, healthfull, great, and long lasting trees.

Benefits
of good
dressing

1 Thus shall your Tree grow low, and safe from winds, for his top will be great, broad and weighty.

2 Thus growing broad, shall your trees beare much fruit (I dare say) one as much as five of your common trees, and good without shadowing, dropping, and fretting: for his boughs, branches, and twigs shall be many, and those are they (not the boale) which beare the fruit.

3 Thus shall your boale being little (not small but low) by reason of his shortnesse, take little, and yeld much sap to the fruit.

4 Thus your Trees by reason of strength in time of setting shall put forth more blossomes, and more fruit, being free from taints; for strength is a great helpe to bring forth much and safely, whereas weaknesse failes in setting though the season be calme.

Some use to bare Trees roots in Winter, to stay the setting till hotter seasons, which I discommend, because,

1 They hurt the roots.

2 It staies it nothing at all.

3 Though it did, being but small, with vs in the North, they haue their part of our Aprill and Maies frosts.

4 Hindrance cannot profit weake trees in the setting.

5 They waste much labour.

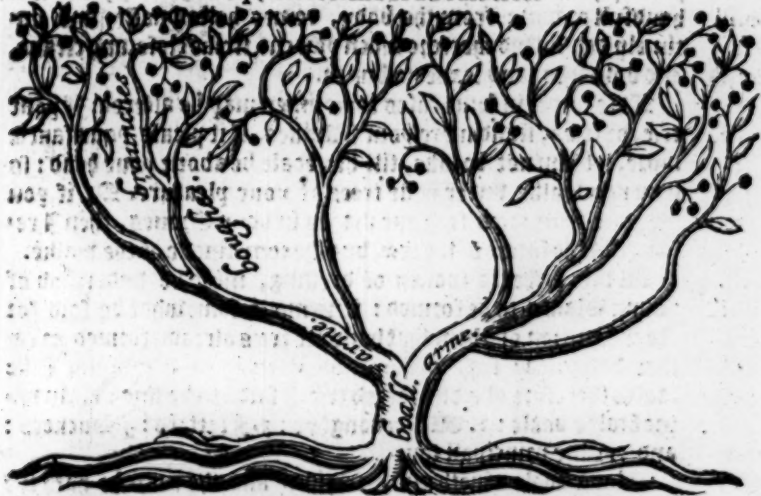
6 Thus shall your tree be easie to dresse, and without danger, either to the tree or the dresser.

7 Thus may you safely and easily gather your fruit without falling, bruising or breaking of Cyons.

This is the best forme of a fruit-tree, which I haue here only shadowed out for the better capacity of them that are led more with the eye, than the mind, craving pardon for the deformity, because I am nothing skilfull either in painting or caruing.

Imagine that the paper makes but one side of the Tree to appeare; the whole round compasse will giue leaue for many more armes, boughs, branches and Cyons.

The perfect forme of a Fruit tree.



If any thinke a tree cannot well be brought to this forme: *Experto crede Roberto.* I can shew diners of them vnder twenty yeares of age.

The fittest time of the Boone for proyning is as of grafting, when the sap is ready to stirre (not proudly stirring) and so to couer the wound, and of the yere, a month before (or at least when) you graffe. Dresse Peares, Apricoks, Peaches, Cherries, and Bullys sooner. And old trees before young plants, you may dresse at any time betwixt Lease and Lease. And note, that where you take any thing away, the sap the next summer will be putting: be sure therefore when he puts a bud in any place where you would not haue him, rub it off with your finger.

Time
best for
proi-
ning.

And heere you must remember the common homely Pro-
uerbe: Soone crookes the tree that good Camrell must bee.
Beginne betime with trees, and doe what you list: but if
you let them grow great and stubbozne, you must doe as the
trees list. They will not bend but breake, nor be wound with-
out danger. A small branch will become a bough, and a bough
an arme in bignesse. Then if you cut him, his wound will se-
ter, and hardly, without good skill, recover: therefore, obsta-

Dresse
betime.

Faults
of euill
drest
trees, &
the re-
medie.
The
forme
altered.

principijs. Of such wounds, and lesser, or any bough cut off a handfull or more from the body, couer both sides, and by timely death. And therefore when you cut, strike close, and cleane, and bywards, and leaue no bunch.

This forme in some cases sometimes may be altered: If your tree, or trees, stand nere your walkes, if it please your fauour more, let him not beake, till his boale be above your head: so may you walke vnder your trees at your pleasure. And if you set your fruit trees for your shades in your Groves, then I respect not the forme of the tree, but the comelinesse of the walke.

Dressing
of old
trees.
Faults
are siue,
& their
reme-
dies.

All this hitherto spoken of dressing, must be vnderstood of young Plants, to be formed: it is meete somewhat be said for the instruction of them that haue old trees already formed, or rather deformed: for, malum non vitatur nisi cognitum. The faults therefore of a disordered tree, I kinde to be siue: 1. An vnpofitable boale: 2. Waterboughes: 3. Fretters: 4. Suckers: and 5. One principall top.

1. Long
boale.

A long boale asketh much feeding, and the more he hath the more he desires, and gets (as a drunken man drinke, or a couetous man wealth) and the lesse remaines for the fruit, he puts his boughes into the aire, and makes them, the fruit, and it selfe more dangered with winde: for this I know no remedie, after that the tree is come to growth, once euill, neuer good.

No re-
medie.

2. Water
boughs.

Water boughes, or vndergrowth, are such boughes as grow low vnder others and are by them ouergrowne, ouershadowed, dropped on, and pinde for want of plentie of sap, and by that meanes in time die: For the sap presseth byward; and it is like water in her course, where it findeth most issue, thither it floweth, leauing the other lesser suces dry: even as wealth to wealth, and much to more. These so long as they beare, they beare lesse, worse, and fewer fruit, and waterish.

Remedy

The remedie is easie, if they be not growne greater than your arme. Lop them close & cleane, & couer the middle of the wound, the next Summer when he is drye, with a salue made of tallow, tar, & a very little pitch, good for the couering of any such wound of a great tree: vnlesse it be barke-pild, and then a scar-cloth of fresh Butter, Honey, and Mace, presently (while the wound is greene) applyed, is a soueraigne remedie in summer especially. Some bind such wounds with a thumbe rope of Hay, moist and rub it with dung.

Barke-
pild, and
the re-
medie.

Fret-

Fretters are, when as by the negligence of the Gardener, two, or moe parts of the tree, or of diuers trees, as armes, boughs, branches, or twigs, growe together and close together, that one of them rubbing doth wound another. This fault of all other sheares is the want of skill, or care (at least) in the Arborist: for here the hurt is apparant, and the remedy easie, & eue to betime: galls and wounds incurable, but by taking away those members: for let them grow, and they will be worse and worse, and so kill themselves with canker like for rowth, and danger the whole tree. Aoid them betime therefore, as a common-wealth doth hosome enemies.

3.
Fretters.
Touch-
ing.
Remedy.

A Sucker is a long, proud, and disorderly Cyon, growing straight up (for wide of sap makes proud, long & straight growth) out of any lower parts of the tree, receiuing a great part of the sap, and bearing no fruit, till it haue tyrannized ouer the whole tree: These are like idle and great Drones amongst Bees, and proud and idle members in a common-wealth.

4.
Suckers.

The remedy of this is, as of water-boughes, vlesse he be growne greater, then all the rest of the boughs, and then your Gardener (at your discretion) may leape him for his boale, and take away all, or the most of the rest. If he be little, slip him, and let him, perhaps he will take: my fairest Apple-tree was such a Slip.

Remedy

One or two principall top boughs are as euill, in a manner, as Suckers, they rise of the same cause, and receiue the same remedy: yet these are moze tolerable, because these beare fruit, yea the best: but Suckers of long age not beare.

5.
One
princi-
pal top or
bough,
and re-
medy.

I know not how your tree should be faulty, if you reforme all your vices timely and orderly. As these rules serue for dressing young trees and lets in the first planting: so may they well serue to helpe old trees, though not exatly to recouer them.

The Instruments fittest for all these purposes, are most commonly: for the great Trees an handsome, long, light Ladder of Firpoles, a little, nimble, and strong armed Saw, and Sharpe. For lesse Trees, a little and sharpe Hatchet, a broad mouthed Chisell, strong and sharpe, with an handle, your strong and sharpe Cleauer, with a knock, and (which is a most necessary Instrument amongst little Trees) a great hatted and sharpe Knife or Whittle. And as needfull is a Stole

Instru-
ments
for dress-
ing.

Stole on the top of a Ladder of eight or nine rings, with two backe feet, wherean you may safely and easfully stand to graffe, to dyke, and to gather fruit, thus formed: The feet may be faste wedged in: but the Ladder should hang loose, with two bands of iron. And thus much of dyking trees for fruit, formally to profit.



CHARXXII.

Of Foyling.

Necessi-
ry of foy-
ling.



There is one thing yet very necessary for to make your Orchard both better, and more lasting: yea, so necessary, that without it your Orchard cannot last, nor prosper long, which is neglected generally both in precepts and in practise, viz. manuring with Foile: whereby it hapneth that when trees (among other evils) through want of fatteresse to feede them, become moulte, and in their growth are euill (or not) thyking, it is either attributed to some wrong cause, as age (when indeed they are but young) or euill standing (when they neuer so well) or fuytlike, or else the cause is altogether vnknowne, and so not amended.

Trees
great
suckers.

Great
bodies.

Can there be deuised any way by nature, or art, sooner or sooner to take out, and take away the heart and strength of earth, than by great trees? Such great bodies cannot bee sustained without great stocks of sap. What liuing body hath you greater than of trees? The great Sea-monsters (whereof one came a land at Teesmouth in Yorkshire, hard by vs, 18. paces in length, and nere as much in compass) seeme hideous, huge, strange, & monstrous, because they be indeed great, but especially, because they are seldome seene. But a tree which come to his growth and age, twice that length, and of a bulk neuer so great, besides his other parts, is not admired, because he is so commonly seene. And I doubt not, but if he were well regarded from his kinnell, by succeeding ages, to his full strength, the most of them would double their measure. About fifty yeeres agoe I heard by credible and constant report, that in Brotham Parke in West-morland, nere vnto Penrich, there lay a blowne

blaine Dake, whose Trunke was so bigge, that two perfect men being the one on the one side, and the other on the other side, they could not one see another: to which if you adde his armes, haughes, and roots, and consider of his bignesse, what would he haue bene, if preferred to the bantage. Also I read in the History of the West-Indians, out of Peter-Martyr, That firste men taking hands one with another, were not able to fathom one of those trees about. Now Nature having giuen to such a faculty by large and infinite roots, talues and tangles, to draw immediately his sustentance from our common mother the Earth (which is like in this point to all other mothers that beare) hath also ordained that the Tree over-loden with fruit, and wanting sap to feed all she hath brought forth, will waite all she cannot feed, like a woman bringing forth more children at once then she hath teats. See you not how Trees especially, by kind being great, standing so sticke and close, that they cannot get plenty of sap, pine away all the grasse, weeds, lesser shrubs, and trees, yea and themselves also for want of bigge of sap: So that trees growing large, sucking the soile whereon they stand, continually, and amaine, and the foyson of the earth that feeds them decaying (for what is there that wastes continually, that shall not haue end?) must either haue supply of sucken, or else leane thining and growing. Some grounds will beare Cozne while they be new, and no longer, because their crust is shallow, and not very good, and lying high they scind and wash, and become barren. The ordinary Cozne soiles continue not fertill, without folloving and foyling, and the best requires supply, euen for the little body of Cozne. How then can wee thinke that any ground (how good soeuer) can sustaine bodiles of such greatnesse, and such great feeding, without great plenty of Sap arising from god earth: This is one of the chiefe causes, why so many of our Orchards in England are so e pill thining when they come to growth, and our fruit so bad. Men are loth to bestow much ground, and desire much fruit, and will neither set their trees in sufficient compasse, nor yet feed them with manure. Wherefore of necessity Orchards must be soiled.

The fittest time is, when your Trees are growne great, Time for
and haue nere hand spread your earth, wanting new earth to for foy-
sustaine ling.

Kind of
foyle.

folke the strength to they do, they will seeke abroad for better
earth, and than that, which is barren (if they find better) and cut
telle off paffer hyls, for nature hath taught every creature to
dwell and feede his owne good, and to alio hurt. The best time
of the yeere is at the Fall, that the Frost may bite and make it
tender, and the Raine wash it into the roots. The Summer time
is perillous to it, yea; because the Sun sties againe. The best
kind of soyle is such as is fat, hot, and tender. Your earth
must be dublytly opened, that the dung may goe in, and wash
away; and but shallow, lest you hurt the roots: & in the spring,
closely and equally made plaine againe for feede of Houskers.
I would wish, that after my Trees have fully possessed the soyle
of mine Orchard, that every seven yeeres at least, the soyle were
bespred with dung halfe a foot thicke at least. Dubble water
out of the dung hill poured on plentifully, will not only moisten
but fatten, especially in June and July. If it bee thicke and fat
and applied every yeere, your Orchard shall need none other soyl-
ling. Your ground may be so low at the River side, that the
flood standing some daies and nights thercon, shall save you all
this labour of soiling.

CHAP. XLII.

Of Amoyances.



Chiefe helpe to make every thing good, is
to avoid the evils thereof. You shall never
attaine to that good of your Orchard you
take for, unless you have a Gardener, that
can discerne the diseases of your trees, &
other annoyances of your Orchard, & find
out the causes thereof, and know & apply
fit remedies for the same. For be your ground, trees, plants, and
trees as you would wish, if they be wasted with hurtful things,
what have you gained but your labor for your travel? It is with
an Orchard & every tree, as with mans body. The best part of
physicke for preservation of health, is to foresee & cure diseases.

Two
kinds of
evils in
an Or-
chard.

All the diseases of an Orchard are of two sorts, either inter-
nall or externall. I call those inward hurts which breed on and
in particular trees.

1 Calles.

Galls, Canker, Mousse, Weaknesse, though they bee diuers diseases: yet (howsoever Authoꝝ thinke otherwise) they rise all out of the same cause.

Galls we haue described with their cause and remedy; in the 11. Chapter vnder the name of fretters.

Canker is the consumption of any part of the tree, barke and wood, which also in the same place is deciphered vnder the title of winter-boughes.

Mousse is sensibly seene and knowne of all, the cause is pointed out in this Chapter, in the discourse of Timber-wood; and partly also the remedy: But for Mousse adde this, That at any time in summer (the Spring is best) when the cause is remoued, with an Harcloth, immediately after a shower of raine, rub off your Mousse, or with a peece of wood (if the Mousse abound) shaped like a great knife.

Weaknesse in the setting of your fruit shall you finde there also in the same Chapter, and his remedy. All these flow from the want of warmth in good soyle, w^{ch} long plaining, Chapa 7^o and euill or no dressing.

Barke-bound (as I thinke) riseth of the same cause, and the best, and present remedy (the causes being taken away) is with your sharpe knife in the Spring, length-way to launch his barke throughout, on th^{is} or some sides of his boughes.

The disease called the Worme is thus discerned: The barke will be hoate in diuers places like gall, the wood will die & dry, & you shall see easily the barke swell. It is verily to be thought, that therein is bred some worme. I haue not yet thorowly sought it out, because I was neuer troubled therewithall: but only haue seene such trees in diuers places. I thinke it a worme rather, because I see this disease in trees, bringing fruit of sweet taste, & the swelling themselves as much. The remedy (as I coniecture) is so soone as you perceiue the wound, the next spring cutt out barke & all, and apply Cowes piss & vinegar presently, and so wise as th^{is}ice a week for a month, spare it. For I well perceiue, if you suffer it any time, it eates the tree or bough round, & so kills.

Galls.

Canker.

Mousse.

Weak-
nesse in
setting.Barke-
bound.

Worme.

Remedy

Since I first wrote this Treatise, I have changed my mind concerning the disease called the woyme, because I read in the History of the West-Indians, that their trees are not troubled with the disease called the woyme or canker, which ariseth of a rancid and chilt concocted humor or sap, Whilstone Pliny, by reason their Country is more hot then ours, whereof I thinke the best remedy is (not disallowing the former, considering that the woyme may breed by such an humor) warme standing, fownd lopping and good dressing.

Bark-
pilde.
Wounds.

Bark-pild you shall find with this remedy in the 11. Chapter. Deadly wounds are when a mans Arbowist wanting skill, cuts off armes, boughs or branches an inch, as (as I see sometimes) and such a wound is as a pynne from the body. As he se cut cannot cover in any time with sap, and therefore they die, and bying they perish the heart, and so the tree becomes hollow, and with such a deadly wound cannot live long.

Remedy.

The remedy is, if you find him before he be perished, cut him close as in the 12. Chapter: if he be hold, cut him close, fill his wound, the nearer so deepe, with moxter well tempered and so close at the top his wound with a beare cloth doubled & nailed on; that no aire may raine approach his wound. If he be not he, or old, and detaining, he shall recover, and the hole being closed, his wound within shall not hurt him for many yeeres.

Hurt
on trees.
Ants,
Earwigs,
Cater-
pillars,
and such
like
wormes.

Hurts on your trees are chiefly Ants, Earwigs, and Caterpillars: Of Ants and Earwigs is said Chap. 12. Let there be no worme of diswire neere your Tree rot, no not in your Orchard, turne them due in a scall, and pour in water, and you will them.

For Caterpillars, the vigilant Fowerer shall come, for their lodging by their web, or the decay of leaues eaten round about them. And being seene, they are easily destroyed with your hand, or rather (if the tree may permit) take spin and all, for the caterpillar butter flye doth enter by them, being hot warm, among the tender leaues for better feeding, especially in the night, and tread them under your feet. I like nothing of smoke among my trees, but naturall beates are nothing good for naturall trees. This is for the cure of particular trees.

External
culls.

External hurts are either things naturall or artificiall. Natural things, externally hurting the tree, as

Beasts

fruit trees as of old Chapter 4. to which it is ordained, and I would especially name Apples, Elmes, Alders, and such other great wood, but I would not it should be taken as an admission of lesser trees: for I would of nothing to grow in mine Orchard but Fruit and Flowers. If Sap can hardly be good to save our Fruit-trees, why should we allow of any other, especially those, that will become thicke pastures, and losing them in their limelphod.

And although we admit without the fence of Walnuts in most plaine places, Trees middle-most, and Ashes or Oks, or Elmes utmost, set in comely rowes equally distant with faire Allies twist row and row to avoid the diversous blasts of winds, and within them also others as will; yet we admit none of this into your Orchard-plat: better remedy then this have we none against the nipping frost.

Winds.

Frosts.

Weeds.

Weeds in a fertile soil: because the generall curse is so) till your Trees grow great, will be noysome and defoyme your allies, walks, beds, and squares, your wise Gardners must labour to keepe all cleanly and handsome from them, and all other things as weeds, and such like, take with iron teeth: a couple of Iron thus formed by

Remedy

whom?

Wormes

Moles.

Remedy

ni signed arididim lo quish elodit na and ten more
 For garden and ground they will be no use. But as they grow
 when the roots are all other scraping are gas
 the roots together, but they are not, but bury them, either your
 crust in any place of your Orchard, and they will go and fall
 your ground, two more and a third to show the roots
 the roots are all other upon the earth, and let in air to the
 roots of your Trees, and defoyme your squares and walks, and
 ding in the earth, being in number infinite, but to be barren
 the roots may easily be destroyed: and to be barren
 when it is dark, after which with a Candle, you may see the
 holes, but you must tread on them. And where you cannot come
 to catch them so, fill the earth with scale ashes an inch or two
 thick, and that is a plague to them, so is charpe goodell.
 and when you see your Gardener or some faithful Pote
 catcher take you not, especially having made their nest
 among the roots of your trees: you must watch her well with a
 pole.

foote yeare, of moone, none, and night when you see her in most
hill, cast a trench betwixt her and her house for the better p^{er}sona
cipall mansion, so small and high in a bent. A well, which you
may discern by a principall hill, wherein you may catch her, if
you trench it round and sure, and watch well) so, where so ever
you can discern a single passage (for such the bath) there trench
and watch, and have her.

Willfull annoyances must be prevented and avoided by the love
of the Master and Enterer, which they beare to their Orchard.

Justice and liberality will put away euill neighbours or euill
neighbour-hood. And then (if God bleste and give success to your
labours) I be not what hurtyour Orchard can suffer.

CHAP. XIII.

Of the Age of Trees.



It is to be considered, that this Treatise of
trees tends to this end, that men may know and
plant Orchards, wherein to there cannot be
a better inducement then that they should (or
at least, be persuaded) that all the benefit
they shall reape thereby, is the great pleasure
or profit, shall not be for a day or a month, or one, or many (but
many hundred) yeeres. Of good things the greatest, and most
durable is alwaies the best. If therefore out of reason consid
red, upon experience, it be made (I thinke) manifest, that I
am sure probable, that a fruit-tree in such a soile and site, as is
described so planted and trimmed and kept, as is afore appoin
ted and duly soiled, shall dure 1000 yeeres, why should we not
take pines, and be at two or three yeeres charge after, underse
ven yeeres will an Orchard be perfected for the best planting,
and in that time be brought to fruit, so reape such a commodi
ty, and so long lasting.

Let no man thinke this to be strange, but peruse and con
sider the reason. I haue Apple-trees standing in my little Or
chard, which I haue knowne these forty yeeres, whose age be
fore my time I cannot learne, it is beyond memory, tho I
haue enquired of diuers aged men of 80. yeeres and bywards:
these trees although come into my possession very euill orde
red,

Willfull

annoy

ances.

Remedy

to avoid

of such

damages

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be done

to the

Orchard

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rod, with open, and one of them bounden to his heart, and that deadly (say I know it will be his death) with a wound, wherein I judge him to be hurt in the heart of his nature. Now if he lye in his bed, with a wound, with that I shall regard they have had more, they is like, that I shall say, I tell they are not come to their growth by more than 2. parts of 3. which I observe not only by their owne growth, but also by comparing them with the blade of some trees, and with them (not at least) by so many parts in height, although I know those other fruit trees have some many hinderes in their nature by euill guiding.

Parts of
a Trees
age.

If my tree be a hundred years old, and yet want two hundred of their growth before they leave increasing, which make three hundred, then we must needs resolve, that this three hundred years are but the third part of a Trees life, because (as all things living besides) so Trees must have allotted them for their increase into three, another third for their stand, and a third part of time also for their decay. All which time of a Tree amounts to nine hundred years; three hundred for increase, three hundred for his stand, whereof we have the tearme stature, and the other hundred for his decay, and yet I thinke (for we must compare by comparing, because no one man touch to see the full age of a Tree) I am within the compass of his age, supposing alwaies the foresaid means of preserving his life. Consider the age of other living creatures. The Hoyle and mole led Ore wrought to an untimely death, yet double the time of their increase. A Dog likewise increaseth three, stands three at least, and many many (or rather many) decays. Every living thing bestowes the least part of his age in his growth, and so must it needs be with Trees. A man comes not to his full growth and strength (by common estimation) before thirty yeeres, and some slender and cleane bodies, not till forty, so long also stands his strength, and so long also must hee have allotted by course of nature to decay. Euen supposing that he bee well kept with necessaries, and from and without straines, bruises, and all other domynizing diseases. I will not say upon true report, that Physicke holds it possible, that a cleane body kept by these 3. Doctors, Doctor Dyc, Doctor Quier, and Doctor Merriman, may live nere a hundred yeeres.

Neither

Mans
age.

Neither will I heere bzge the long yeeres of Methushalah, and those men of that time, because you will say, Mans dayes are shoytned since the flood. But what hath shoytned them? God for mans sinnes: but by meanes, as want of knowledge, euill gouernement, ryot, gluttony, drunkennes, and (to be shor) the entrease of the curse, our sinnes increasing in an irren and wicked age.

Now if a man, whose body is nothing (in a manner) but tender rottenesse, whose course of life cannot by any meanes, by counsell, restraint of lawes, or punishment, nor hope of praise, profit, or eternall glory, be kept within any bounds, who is degenerate cleane from his naturall feeding, to effeminate nicenesse, and cloying his body with excesse of meat, drinke, slepe, &c. and to whom nothing is so pleasant and so much desired as the causes of his owne death, as idlenesse, lust, &c. may liue to that age: I see not but a tree of a solide substance, not damaged by heate or cold, capable of, and subject to any kinde of ordering or dressing, that a man shall apply vnto him, feeding naturally, as from the beginning disburdened of all superfluties, eases of, and of his owne accord auoiding the causes that may annoy him, should double the life of a man, more than twice told; and yet naturall philosophy, and the vniuersall consent of all Histories tell vs, that many other liuing creatures farre exceed man in the length of yeeres: As the Hart and the Maun. Thus reporteth that famous Roterodam out of Hesiodus, and many other Historiographers. The testimony of Cicero in his booke De Senectute, is weighty to this purpose: that we must in posteritas ferere arbores, which can haue none other sence: but that our fruit trees, whereof he speaks, can endure for many ages.

What else are trees in comparison with the earth: but as haire to the body of man? And it is certaine, without poisoning, euill and distemperate dyet, and blage, or other such forcible cause, the haire dure with the body. That they be called excrements, it is by reason of their superfluous growth: (for cut them as often as you list, and they will still come to their naturall length.) Not in respect of their substance, and nature. Haires endure long, and are an ornament and vse also to the body, as trees to the earth.

So that I resolve upon good reason, that fruit-trees well ordered, may live and like a thousand yeeres, and beare fruit, and the longer, the more, the greater, and the better, because his vigour is proud and stronger, when his yeeres are many: You shall see his trees put their buds and blossomes both sooner and more plentifully than yong trees by much. And I sensibly perceine my yong trees to enlarge their fruit, as they grow greater, both for number, and greatnesse. Yong Hesters bring not sojty Calues so faire, neither are they so plentifull to milke, as when they become old Hies: A good Housewife will breed of a yong but an old Hie-mother: It is so in all things naturally, therefore in trees.

The age of
timber
trees.

And if fruit-trees last to this age, how many ages is it to be supposed, strong and huge timber trees will last: whose huge bodies require the yeeres of diuers Michahababes; before they end their dayes, whose Sap is strong and bitter, whose Barke is hard and thicke, and their substance solid and stiffe: all which are defences of health and long life. Their strength withstands all forcible winds, their sap of that quality is not subject to decay and tainting. Their bark receiues seldom any wound by casualty any wound, and not onely so, but he is free from remouals, which are the death of millions of trees, whereas the fruit tree in comparison is little, and often blowne downe before, his sap sweet, soft, and soon tainted, his bark tender, and soon wounded, and himselfe used by man, as man be leth himselfe, that is either unskillfully, or carelesly.

Age of
trees dis-
cerned.

It is good for some purposes to regard the age of your fruit trees, which you may easily know, till they come to accomplish twenty yeeres, by his knots: reckon from his root by an arme, and so to his top-twig, e every yeere a growth is distinguished from other by a knot, except topping or remouing downe.

CHAP. XV.

Of gathering and keeping Fruit.

Although it be an easie matter, when God shall send it, to gather and keepe fruit, yet are they certaine things for the your regard. You must gather your fruit when it is ripe, and not before, else will it wither and be tough and sowre. All fruit generally are ripe, when they beginne to fall.

Generall
Rule.

fall. For Trees doe as all other bearers doe, when their young ones are ripe, they will waine them. The Dove her Pigeons, the Dove her Rabbits, and women their children. Some fruit trees sometimes getting a taint in the setting with a frost or euill winde, will cast his fruit untimely, but not befoze he leaue giuing them say, or they leaue growing. Except frō this soze-said rule, Cherries, Damsons, and Bullies. The Cherry is Cherries, ripe when he is swelt wholly red, and sweet: Damsons and &c. Bullies not befoze the first frost.

Apples are knowne to bee ripe, partly by their colour, Apples, growing towards a yellow, except the Leathercoat and some Penres and Greening.

Timely Summer fruit will be ready, some at Spisummer, When, most at Lammas for present vse; but generally us keeping fruit befoze Michael tide. Hard Winter fruit and Wardens longer.

Gather at the full of the Moone for keeping, gather dry, for Dry stalkes. feare of rotting.

Gather the stalkes withall: for a little wound in fruit, is deadly: but not the stumps, that must beare the next fruit, nor leaues, for moisture putrefies.

Gather euery kinde severally by it selfe, for all will not keep Seuerally, alike, and it is hard to discerns them, when they are mingled.

If your trees be ouer-laden (as they will be, being ordered, Overladen as is befoze taught you) I like better of pulling some off (the trees, they be not ripe) nere the top end of the bough, then of propping by much, the rest shall be better fed. Propping puts the bough in danger, and frets it at least.

Instruments: A long Ladder of light Firre: A Scale-ladder as in the 11. Chapter. A gathering appon like a poake befoze you, made of purpose, or a Wallet hung on a bough, or a basket with a flue bottome, or skinne bottome, with Raths or splinters vnder, hang in a rope to pull by & down: braise none, Bruises, euery braise is to fruit death: if you doe, vse them presently. An hooke to pul boughs to you is necessary, braise no boughs.

For keeping, lay them in a dry Loft, the longest keeping Keeping, Apples first and furthest on dry straw, on heapes ten or fourteene dayes, thicke, that they may sweate. When dry them with a soft & cleane cloth, and lay them thinne abroad, Long keeping fruit

fruit would bee turned once in a moneth softly: but not in noz immediatly after frost. In a loft comer well with strato, but rather with chaffe or bzan: For frost doth cause tender rottenness.

CHAP. XVI. Of Profits.

Now pause with your selfe, and biew the end of all your labours in an Orchard: vnspeakeable pleasure, and inestimable commoditie. The pleasure of an Orchard I referre to the last Chapter for the conclusion: and in this Chapter, a word or two of the profit, which thozotwly to declare is past my skill: and I count it as if a man should attempt to adde light to the Sunne with a Candle, or number the Starres. No man that hath but a meane Orchard or Iudgement but knowes, that the commoditie of an Orchard is great: Neither would I speake of this, being a thing so manifest to all; but that I see, that though the carelesse laziness of men, it is a thing generally neglected. Wnt let them know, that they lose hereby the chiefest good which belongs to housekeeping.

Compare the commoditie that cometh of halfe an acre of ground, set with fruit trees and hearbs, so as is prescribed, and a whole Acre (say it be two) with Cozne, or the best commoditie you can wile, and the Orchard shall exceed by others degrees.

Cydar and
Perry.

In France and some other Countreies, and in England, they make great vse of Cydar and Perry, thus made: Dresse euery Apple, the stalk, upper end, and all galle away; stamp them, and straine them, and within 24. houres tyme them vp into cleane, sweet, and sound vessels, for feare of euill ayze, which they will readily take: and if you hang a poake full of Cloues, Mace, Nutmegs, Cinamon, Ginger, and pills of Lemmons in the midst of the vessell, it will make it as wholesome and pleasant as wine. The like vseage doth Perry require. These drinks are very wholesome, they coole, purge, and prevent hot Agues. But I leaue this skill to Physicians.

Fruit.

The benefit of your Fruit, Rootes and Hearbs, though it were but to eate and sell, is much.

Waters.

Waters distilled of Roses, Woodbine, Angelica, are both profitable and wonderful pleasant, and comfoztable.

Wattson

Saffron and Lycosas will yeeld you much Conserues and Preserues, are ornaments to your Feasts, health in your Sicknesse, and a good helpe to your friend, and to your purse. Conserues.

He that will not be moued with such vspeakable profits, is well woorth to want, when others abound in plenty of good things.

CHAP. XVII.

Ornaments.

Me thinks hitherto we haue but a bare Orchard for fruit, and but halfe good, so long as it wants those comely Ornaments, that should giue beauty to all our labours, and make much for the honnest delight of the owner and his friends.

For it is not to be doubted: but as God hath giuen man things profitable, so hath hee allowed him honnest comfort, delight, and recreation in all the woorks of his hands. Nay, all his labours vnder the Sunne without this are troubles, and vexation of minde: For what is grieuous gaine, without delight. But moynling, and turmoynling in slavery? But comfortable delight, with content, is the good of euery thing, and the patterne of heauen. A moynell of bread with comfort, is better by much than a fat Oxe with vnquietnesse. And who can deny, but the principall end of an Orchard, is the honnest delight of one wearied with the woorks of his lawfull calling? The berry woorks of, and in an Orchard & Garden, are better than the ease and rest of, and from other labours. When God had made man after his owne Image, in a perfect state, and would haue him to represent himselfe in authority, tranquillitie, & pleasure vpon the earth, he placed him in Paradise. What was Paradise? but a Garden and Orchard of trees and herbes, full of all pleasure: & nothing there but delights. The gods of the earth, resembling the great God of heauen in authority, Maiestie, and abundance of all things, wherein is their most delight? And whither doe they withdraw themselves from the troublesome affayres of their estate, being tyed with the hearing and iudging of litigious Controuersies? choked (as it were) with the close ayres of their sumptuous buildings, their stomacks cloyed with varietie of Banquets, their eares filled & ouerburthened with tedious discourses:

Delight
the chiefe
end of
Orchards.

An Or-
chard de-
lightsome.

An Or-
chard is
Paradise.

Canfes of
wearisome-
nesse.

Orchard is
theremedy.

All delight
in Or-
chards.

This de-
lights all
the senses.

Delighteth
old age.

Causes of
delight in an
Orchard.

Flowers.

Whither? but into their Orchards? made and prepared, dyed and destinated for that purpose, to revive and refresh their Sences, and to call home their over-wearied spirits. Nay, it is (no doubt) a comfort to them, to set open their Apartments into a most delicate Garden and Orchard, whereby they may not onely see that, wherein they are so much delighted, but also to glue fresh, sweet, and pleasant ayze to their Galleries and Chambers.

And looke, what these men doe by reason of their greatnesse and ability, provoke such delight, the same doubtlesse would every of us doe, if power were assigneable to our desires, whereby we might enjoy that of all other delights on earth, they that are taken by Orchards, are most excellent, and most agreeing with nature.

For whereas every other pleasure commonly fills some one of our senses, and that onely, with delight, this makes all our senses swimme in pleasure, and that with infinit variety, enjoyed with no lesse commonly.

That famous Philosopher, & matchlesse Plato, M. T. C: prescribeth nothing moze fit, to take away the tediousnesse and heavy load of thys or foure score yeares, than the pleasure of an Orchard.

What can your eye desire to see, your eares to heare, your mouth to taste, or your nose to smell, that is not to be had in an Orchard, with abundance and variety? What moze delight, some than an infinite variety of sweet smelling flowers? decking with sunny coloures, the Greene mantle of the Earth, the vniuersall Mother of vs all, so by them bespotted, so dyed, that all the world cannot sample them, and wherein it is moze fit to admire the Dyer, than imitate his workmanship. Colouring not onely the earth, but decking the ayze, and sweetning every breath and spirit.

The Rose red, damaske, velvet, and double double promise Rose, the sweet muske Rose double and single, the double and single white Rose. The faire and sweet senting Woodbinde, double and single, and double double. Purple Cowslips, and double Cowslips, and double double Cowslips. Primrose double and single. The Violet nothing behinde the best, for smelling sweetly. And 1000 moze will provoke your content.

And

And all these, by the skill of your Gardiner, so comely, and Borders and
orderly placed in your Borders and Squares, and so intermixt, squares.
gled, that none looking thereon, cannot but wonder, to see, what
Nature corrected by Art can doe.

When you behold in diuers corners of your Orchard Mounts.
Mounts of stone, or wood curiously wrought within and with. Whence
out, or of earth covered with fruit-trees: Kentish Cherry, you may
Damon's plumes, &c. With hairens of pious workman. shoote a
chip. And in some corner (as now) a true Dyall or Clocke, and Bucke.
some Anticke booke, & especially silver sounding Musique. Dyall.
mirt Instruments and voices, grating all the rest: How will Musique.
you be rapt with delight?

Large Walkes, broad & long, close and open, like the Tempe Walkes.
groves in Thessalie, raised with gravel and sand, having seats Seats.
and banks of Aquaducts, all the delights the mind can bring
health to the body.

Take note with delight the lookes of your stags heads, Order of
your fruit trees of all sorts laden with sweet blossoms, and trees.
fruit of all taste, operations, and colours: your trees standing
in comely order, as if they were set out by your Gardiner.

Your borders on every side hanging with drooping with Fe-
berries, Raspberries, Elderberries, Currants, and the roots of
your trees powdered with strawberries, red, white, and
greene, what a pleasure is this? Your Gardiner can frame
your lesser wood to the shape of men and beasts, ready
to give battell: or swift running Greyhounds: or of well sen-
ted and true running Hounds: In chase the Deere, or hunt the
Hare. This kinde of hunting shall not waste your cogner, nor
much your cogner.

Spaces well framed in main height, may perhaps make your Mazes.
friend wandering in gathering of berries, till hee cannot reconer
himselfe without your helpe.

Howeuer pleasant to recreate within your Orchard: it shall Bowle
be a pleasure to have a Bowling Alley, or rather (which is
more manly, and more healthfull) in place of Wats, to stretch
your strength with a Bow.

Howeuer pleasant to recreate within your Orchard: it shall Hearbs.
about a Doore or Wall, in the shape of a Conduit.

an Arched Chappell, or a small Church, or a Conduit.
suit.

River.

Moats.

Bees.

Vinc.

Birds.

Nightin-
gale.

Robin-red-
breast.

Wren.

Black-bird.
Thrush.

But, if there were five or more, it were not amiss.

And in mine opinion, I could highly commend your Orchard, if either thozow it, or hard by it there should runne a pleasant River with Silver Streames: you might sit in your Mount, and angle a peckled Trout, or brightle Cels, or some other Fish: Or, wents, whereon you might row with a Boat, and fish with Nets.

Stoake of Bees in a by and warme Bee-house, comely made of Fir-boughs, to sing, and sit, and feed upon your flowers and spoyle, make a pleasant voyse and sight. For cleanly and innocent Bees, of all other things, looke and become, and thryue in an Orchard. If they thryue (as they must needs, if your Gardiner be skillfull, floure them : for they loue their friends, and hate none but their enemies) they will, besides the pleasure, pecke great spoyle, twing him by his tongue. Yea, the increase of twenty Stocks or Stooles, with other feed, will keep your Orchard. You need not doubt their stings, for they hurt not whom they know, and they know their keeper and acquaintance. If you like not to come amongst them, you need not doubt them : for but neere their stoys, and in their owne defence, they will not fight, and in that case onely (and who can blame them ?) they are maily, and fight desperately. Some (as that Honourable Lady at Hacknes, whose name doth much grace mine Orchard) els els make seats for them in the Stone wall of their Orchard, or Gardin, which is good, but wood is better.

A Wine over-shadowing a feat, is very comely, though her
Grapes with us ripe slowly.

One chiefe grace that adorns an Orchard, I cannot let slip :
A brood of Sightingales, who with their severall notes and
tunes, with a strong delightfome voice, out of a weak body,
will beare you company night and day. She lones (and lones
in) hots of woods in her heart. She will helpe you to cleanse
your trees of Caterpillers, and all uncomely wormes and Ayes.
The gentle Robin-red-breast will keep her, and in Summer in
the coldest stormes will keepe a part. Neither will shee flye
when he be hounds in Summer, with her sweet whistle (like
a sweet Recorder) to cheere your spirits. 1530

The Black-bird and Wren (God take it the Wren) sings
not.

not, but deuoures) sing loudly in a May morning, and delights the eare much (and you need not want their company, if you haue ripe Cherries or Berries, and would as gladly as the rest doe you pleasure:) But I had rather want their company than my fruit.

What shall I say? 1000. of delights are in an Orchard: and sooner shall I be weary, then I can reckon the least part of that pleasure, which one that hath and loues an Orchard, may finde therein.

What is there of all these set to that I haue reckoned, which doth not please the eye, the eare, the smell, and taste? And by these senses as Organes, Pipes, and Windowes, these delights are carried to refresh the gentle, generous, and noble minde.

To conclude, what say may you haue, that you liuing to such an age, shall see the blessings of God on your labours while you liue, and leaue behinde you to your heires or successors (for God will make heires) such a woꝛke, that many ages after your death, shall recoꝝd your loue to your Country? And the rather, when you consider (Chap. 14.)

to what length of time your woꝛke is like to last.

Your owne labour.

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THE
COUNTRY
HOUSEWIVES
GARDEN.

*Containing Rules for Hearbs and Seeds
of common vse, with their times and seasons,
when to set and sow them.*

TOGETHER.

With the Husbandry of Bees, published with secrets
very necessary for euery Housewife.

As also diuers new Knots for Gardens.

The Contents see at large in the last Page.

GEN. 2. 29.

*I haue giuen vnto you euery Herbe, and euery tree, that shall
be to you for meate.*



London printed for Roger Iackson. 1623.

THE
COUNTY
HOVESEWELL
D. J. M.

Containing Notes for Harbours and Rivers
of common use with their names and distances
from London to the Sea.

1000000

Approved: _____
Special Agent in Charge

As the director of the National Center for the Study of the

The Council shall be composed of

1000

... ..

THE COUNTRY
HUSBANDS
GARDEN.

CHAP. VII.

The Soyle: of an Orchard.



The Soyle of an Orchard & Garden, differ
only in these three points. First, the
Gardens Soyle would be somewhat drier.
er, because herbs being more tender
than trees, can neither abide moisture
nor drought, in such excessive measure,
as trees; and therefore having a drier
soyle, & thereby is safe against drought,
if need bee water soundly, which may bee done with small la-
bour, the compass of a garden being nothing so great, as of an
Orchard, and this is the cause (if they know it) that Gardiners
raise their squares: but if maye be trouble you, I see no re-
medy without a generall danger, except in Hops, which be-
light much in a low and sappy earth. Hops.

Secondly, the soyle of a Garden would be plaine and leuell,
at least every square (for we suppose the square to be the fittest
forme) the reason: the earth of a Garden wanting such helpe,
as should stay the water, which an Orchard hath, and the roots
of herbs being short, and not able to fetch their liquoz from the
bottoms, are more annoyed by drought, and the Soyle being
mellow and loose, is soone either washed away, or sends out his
heart by too much drenching and washing. Plaine.

Thirdly, if a garden soyle be not cleere of weeds, and namely,

The Country Housewives Garden.

of graft, the beards shall remain in the: for how should good beards prosper, when such weeds were to fall: considering good beards are better, in respect of small weeds: these being stronger than the weeds, and therefore by the: whereas have small place in comparison, and therefore may the more easily be followeunt the tract one half yeere before, and the better obserued after it is framed. And you shall finde that cleane keeping doth not onely auoid danger of gathering weeds, but also is a speciall ornament, and leaues more plentiful sap for your tender beards.

CHAP. II.

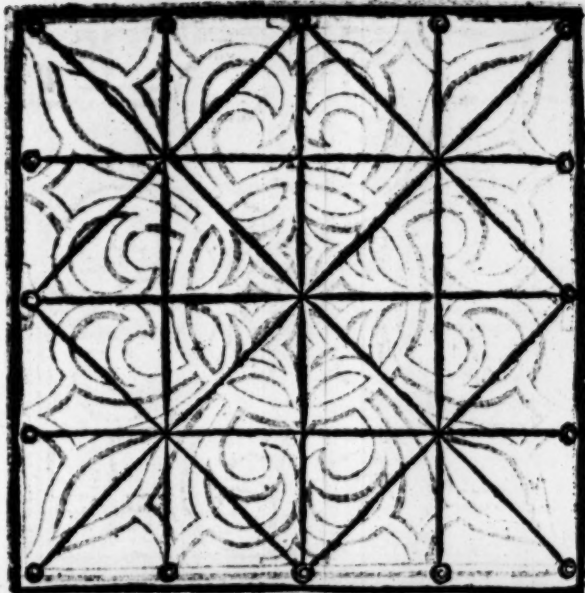
Of the Site.

I Cannot see in any sort, how the Site of the one should not be good, and fit for the other: The ends of both being one, good, whole some, and much fruit to use with our. These Trees be more able to abide the piercing frost than tender herbs: but I am sure, the softer officers are as easily perished with cold, as any herbe except Tompions, and Potatoes.

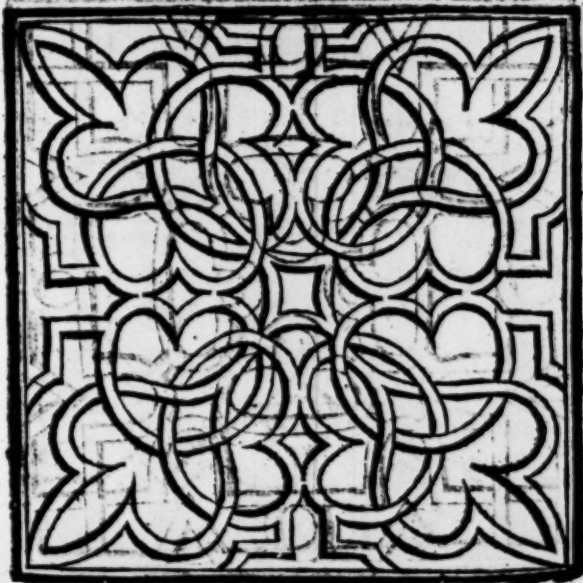
CHAPTER II

Of the forme.

Let that which is said in the *Booke of the Garden*, be in a Garden in general: but for speciall formes in squares, they are as many, as there are devises in Carpenters byaines. And ther is the wit and art of a skilfull Gardiner in this point not to be commended, that can make more variety for breeding of more delight, some choise, and of all those things, where the owner is able and desirous to be satisfied. The number of formes, spaces and knots is so great, and men are so diversly delighted, that I leaue every housewife to her selfe, & specially seeing to let dooing many, had been but to fill much paper: yet lest I deprive her of all delight and direction, let her view these few, choise, new formes, and note this generally, that all plots are square, and all are boynd about with Walnut, Rains, Featherberries, Roses, Thorne, Rosemarie, Black-hollers, Hops, Sage, or such like.



The ground
plot for
Knots.



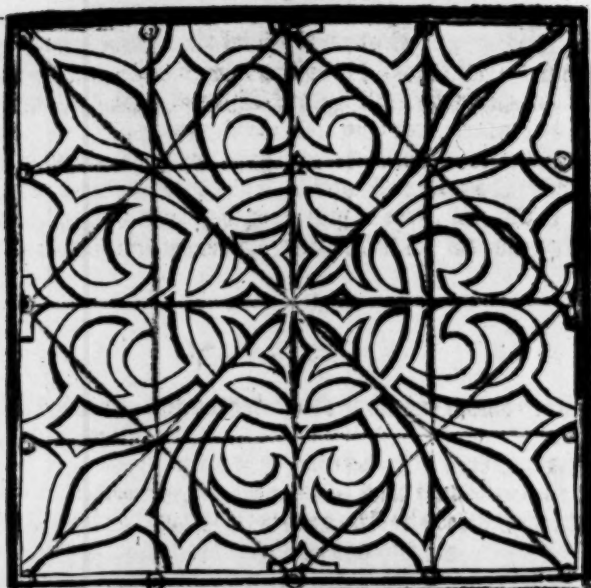
Cinkfoyle.

The Country Housewife's Garden

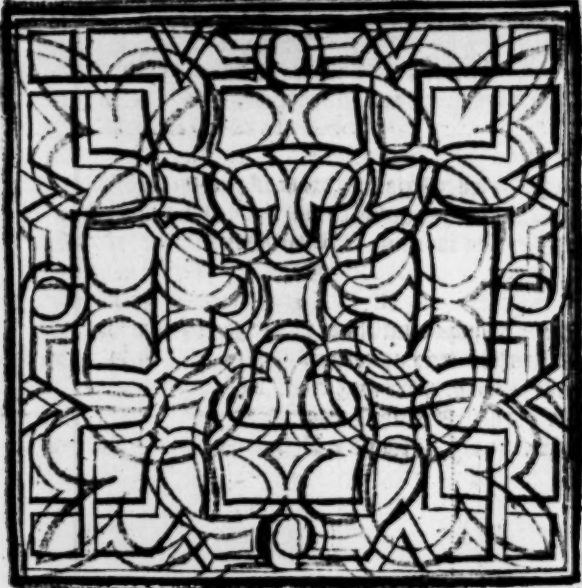
4:

Flower-
deluce

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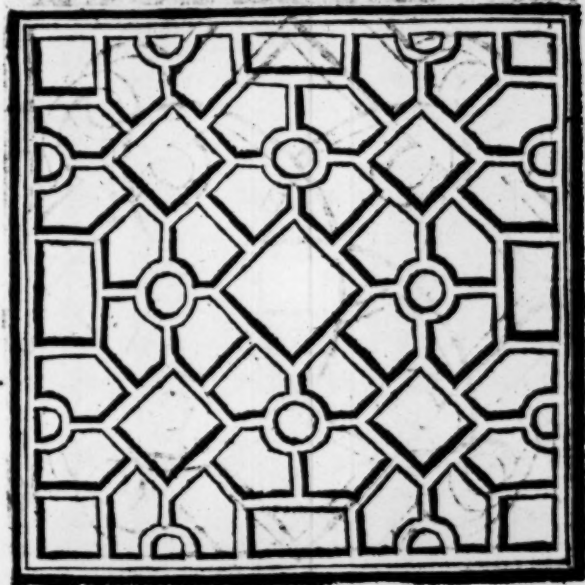


The Tre-
foyle.





The Fret.



Lozengers.

Crosse.
bowe.



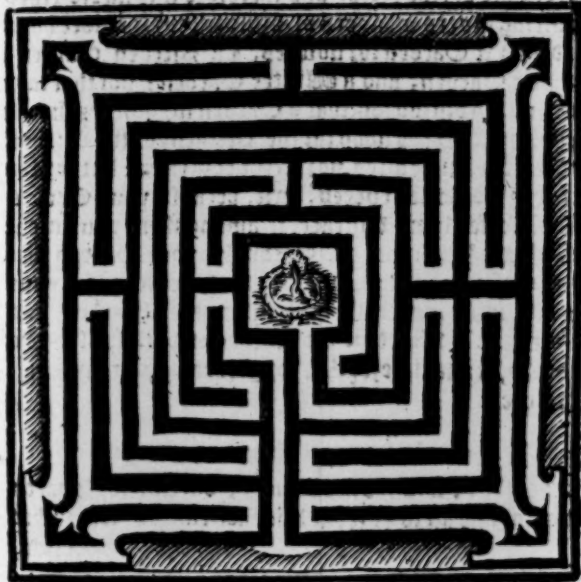
Diamond.

Interlaced





Ouall.



Maze.

CHAP. IIII. Of the Quantitie.

A Garden requireth not so large a scope of ground as an Orchard, both in regard of the much tediousness of setting and removing, and also the paines in a Garden is not so well repayed home, as in an Orchard. It is to be granted, that the Kitchen garden both yeelds rich gaines by Berries, Rootes, Cabbages, &c. yet these are no way comparable to the fruites of a rich Orchard: but notwithstanding I am of opinion, that it were better for England, that we had more Orchards and Gardens, and more large. And therefore we leave the quantitie to every mans ability and will.

CHAP. V. Of Fence.

Seeing we allow Gardens in Orchard plots, and the benefit of a Garden is much, they both require a strong & standing fence. Therefore leaning this, let us come to the hearbes themselves, which must be the fruit of all these labours.

CHAP. VI. Of two Gardens.

Hearbes are of two sorts, and therefore it is meete (they requiring divers manners of Husbandry) that wee have two Gardens: A Garden for flowres, & a Kitchen Garden: or a Summer Garden, and a Winter Garden: not that wee meane so perfect a distinction, that y^e Garden for flowres should or can be without hearbes good for the Kitchen, or the Kitchen Garden should want flowres, nor on the contrarie: but for the most part they would be seuered: first, because your Garden flowres shall suffer some disgrace, if among them you intermingle Onions, Parsnips, &c. Secondly, your Garden that is durable, must be of one sort: but that, which is for your Kitchens use, must yeeld daily rootes, or other hearbes, and suffer decay. Thirdly, the hearbes of both will not be both alike ready at one time, either for gathering, or removing. First therefore.

Of the Summer Garden.

These hearbes & flowres are comely & durable for squares: and knots, and all to be set at Michael-ride, or somewhat before,

The Country Housewives Garden.

9

before, that they may be settled in, and taken with the ground, before Winter, though they may bee set, especially sowne in the Spring.

Roses of all sorts (spoken of in the Orchard,) must bee set. Some use to set slippes and twine them, which sometimes, but seldome thriue all.

Rosemary, Lavender, Wee-flowers, Hop, Sage, Thyme, Cowslips, Hyony, Daffies, Clowe Gilliflowers, Pinkes, Softwood, Lillies, of all which hereafter.

Of the Kitchen Garden.

Though your Garden for flowers doth in a sort peculiarly challenge to it selfe a profit, and exquisite soymes to the eyes, yet you may not altogether neglect this, where your hearbs for the pot doe grow. And therefore, some here make comely borders with y^e hearbs aforesaid. The rather because abundance of Roses and Lavender yeeld much profite, and comfort to the senses: Rosewater and Lavender, the one cordiall (as also the Violets, Burrage, & Buglas) the other removing the spirits by the sense of smelling: both most durable for smell, both in flowers and water: you need not here raise your beds, as in the other Garden, because Summer towards, will not let too much wet annoy you. And these hearbs require more moisture: yet must you have your beds divided, that you may go betwixt to weede, & somewhat soyme would be expected: To which it anaileth, that you place your hearbs of biggest growth, by walles, or in borders, as Fenell, &c. and the lowest in the middell, as Daffron, Strawberries, Onions, &c.

CHAP. VII.

Division of hearbs.

Garden hearbs are innumerable, yet these are common and sufficient for our Country Housewives.

Hearbs of greatest growth.

Fenell, Angelica, Tansie, Hollyhock, Louage, Elly Capanne, French Pallowes, Lillies, French Poppie, Endive, Succory, and Clarte.

B 3

Hearbs

The Country Housewives Garden.

Herbs of middle growth.

Burrage, Buglas, Parsley, sweet Sicillye, Flower de luce, Stocke Gillyflowers, Wall-flowers, Anniseeds, Coriander, Feather-sewelle, Parigolds, Oculus Christi, Longibearse, Alexanders, Carduus Benedictus.

Herbs of smallest growth.

Pansy, o; Pars eate, Coast Margerum, Savery, Strawberries, Saffron, Lycias, Daffadownillies, Leekes, Chines, Chibals, Sherots, Onions, Batchelors buttons, Daisies, Pennyroll.

Hitherto I haue onely reckoned by, & put in this rank, some hearbs. Their husbandry folloiw each in an Alphabetical order, the better to be found.

CHAP. VIII.

Husbandry of Herbs.

Alexanders are to be renued as Angelica. It is a timely Pot-herbs.

Angelica is renued with his seede, whereof he beareth plentie the second yeere, and so dyeth. You may remoue the roots the first yeere. The leanes distilled, yeeld water soueraigne to expell paine from the stomacke. The roote dyed taken in the fall, stoppeth the poares against infections.

Annyseedes make their growth, and beareth seedes the first yeere, & dyeth as Coriander: it is good for opening the pipes, and it is bled in Comfits.

Artichoakes are renued by diuiding the roots into sets, in March, enery third or fourth yeere. They require a severall vsage, and therefore a severall whole plot by themselves, especially considering they are plentiful of fruite much desired.

Burrage & Buglas, two cordials, renue themselves by seede yeerely, which is hard to be gathered: they are exceeding good Pot-herbs, good for Wets, and most comfortable for the heart and stomack, as Quinches and Wardens.

Camomile, set rootes in bankes and walkes. It is sweet smelling, quallifying headache.

Cabbages require great roome, they seede the second yeere: sowe them in February, remoue them when the plants are an handfull long, set deepe and wet. Looke well in drought for the white

lobste Caterpillers woyme, the spannes under the leafe closely: for every living Creature doth seek food and quiet shelter, and growing quicke, they draw to, and ate the heart: you may find them in a raine or dewie moyning. It is a good Botheerbe, and of this Pearb called Cole, our Country Housewives give their pottage their name, and call them Caele.

Cardus Benedictus, or blessed thistle, seeds and dyes the first yeere, the excellent vertue thereof I referre to Herbals: for we are Carvers, not Physicians.

Carrets are sowne late in Aprill or May, as Turneps, else they seeds the first yeere, and then their roots are naught: the second yeere they dye, their rootes grow great, and require large roome.

Chibals or Chives have their rootes parted, as Garlick, Lillies, &c. and so are they set every third or fourth yeere: a good pot-herbe opening, but euill for the eyes.

Clarie is sowne, it seeds the second yeere, and dyes. It is somewhat harsh in taste, a little in pottage is good, it strengtheneth the reines.

Coast, Rootes parted make sets in March: it beares the second yeere: it is used in Ale in May.

Corianders for usage and bles, much like Anniseeds.

Daffadownillies haue their rootes parted, and set once in thre or foure yeere, or longer time. They flower timely, and after Midsummer, are scarcely seene. They are moze for ornament, than use, so are Daisies.

Daisye rootes parted and set, as Flower-de-lace and Cammille, when you see them grow too thicke or decay, They be good to keepe by, and strengthen the edges of your borders, as Pinkes, they be red, wth l^{te}, mist.

Ellycampane root is long lasting, as is the Louage, it sed: peerele, you may diuide the root, and set the root, taken in Winter it is good (being dyed, powdered and drunke) to kill itches.

Endiue and Succory are much like in nature, shape, and use: they renue themselves by seed, as Fennell, and many other herbs. You may remoue them befoze they put forth Shank, a good Botheerbe.

Fennell is renued, either by the seeds (which it beareth the second

second yeere, and so yeerely in great aboundance) sowne in the fall or spring, or by diuiding one root into many sets, as Artichoke, it is long of growth and life. You may remove the root without harme. It is exceeding good for the eyes, distilled, or any otherwise taken: it is used in dressing Plures for swarmer, a very good Botheerbe, or for Wallets.

Fetherfewle shakes seed. Good against a shaking Fever, taken in a posset drinke fasting.

Flower-deluce, long lasting. Diuide his roots, and set: the rootes dyed haue a sweet smell.

Garlicke may be set an handfull distance, two inches deepe, in the edge of your beds. Part the heads into severall cloues, and euery cloue set in the hinder end of February, will increase to a great head before September: good for opening, euill for eyes: when the blade is long, fast two and two together, the heads will be bigger.

Hollyhocke riseth high, seedeth and dyeth: the chiefs be I know is ornament.

Isop is reasonable long lasting: young rootes are good to set, slips better. A good Botheerbe.

Iuly-flowers, commonly called Gilly-flowers, or Cloue. Iuly-flowers (I call them so, because they blowe in Iuly) they haue the name of Cloues, of their sent. I may well call them the King of Flowres (except the Rose) the best sort of them, are called Queene-Iuly-flowres. I haue of them nine or ten severall colours, and diuers of them as bigge as Roses: of all flowres (saue the Damaske Rose) they are the most pleasant to sight and smell: they last not past thre or foure yeeres unrenewed. Take the slips (without shankes) and set any time, saue in extreme frost, but especially at Michael tide. Their vse is much in ornament, and comfortng the spirits, by the sence of smelling.

Iuly-flowres of the Wall, or Wall Iuly-flowres, Wall-flowres, or Bee-flowres, or Winter Iuly-flowres, because growing in walles, euen in Winter, and good for Bees, will grow euen in stone walles, they will seeme dead in Summer, and yet reuine in Winter. They yeeld seed plentifully, which you may sow at any time, or in any broken earth, especially on the top of ymnde wall, but mayst, you may set the root before it

it be brought, every slip that is not flow'd, will take root, or crop him in Summer, and he will flower in Winter: but his winter seed is untimely. This and Palines are exceeding good, and timely for Bees.

Leekes yeeld seed the second yeere, bremoned and die, but lesse you remoue them. vsuall to eate with salt and bread, as Onyons alwayes greene, good both earbe, euill for the eyes.

Lauender Spike would be remoued with in tenen yeeres eight at the most. Slips stwined as Flap and Sage, would be best at Michael tyde. This flower is good for Bees, most comfortable for smelling, except Roses: and kept dry, is as strong after a yeere, as when it is gathered. The water of this is comfortible.

White Lauender would be remoued sooner.

Lettice yeelds seed the first yeere, and byes: sow betime, and if you would haue them Cabbage for Sallets, remoue them as you doe Cabbage. They are vsuall in Sallets, and the pot.

Lillies white and red, remoued once in thre or foure yeeres their rootes yeeld many shoots, like the Garlike. Michael tide is the best: they grow high, after they get roots: these rootes are good to breake a Cyle, as are Mallowes and Joyrell.

Mallowes French, or gagged: the first or second yeere, seed plentifully: sow in March, or before they are good for the housewives pot, or to breake a bunch.

Marigolds most commonly come of seed, you may remoue the plants, when they be two inches long. The double Marigold, being as bigge as a little Rose, is good for this. They are a good both earbe.

Oculus Christi, or Christs eye, seeds and byes the first or second yeere: you may remoue the yong plants, but seed is better: one of these seeds put into the eye, within thre or foure daies will gather a thicke skinne, cleere the eye, and bolt it selfe forth without hurt to the eye. A good both earbe.

Onyons are sowe in February, they are gathered at Michael tide, and all the Summer long, for Sallets, as also yong Parsly, Sage, Chibals, Lettice, sweet Sicilly, Fennell, &c. good alone, or with meate as Sputton, &c. for sauce, especially for the pot.

Parsly sow the first yeere, and die the next yeere: it seedes plenti-

The Country Housewives Garden.

plentifully, on herbe of much use, as sweet Sicily is. The seed and roots are good against the Stone.

Parasceps requires an whole plot; they be plentiful and common: sow them in February, the Kings (that is in the middle) is by hand and reddish. Parasceps are susterance for a strong stomake, not good for evill eyes: When they cover the earth in a drought, to tread the tops, make the roots bigger.

Many-royall, or Wedding Gresse, creeps along the ground, ground Iule. It lasts long, like Daillies, because it puts and spreads deeply in roots. Winter, and remove the roots, it hath a pleasant taste and smell, good for the pot, or backt meats, or Pudding.

Pumpions: Set seeds with your finger, a finger deepe, into in March, and so soon as they appear, every night if you doubt frost, cover them, and water them continually out of a water-pot: they be very tender, their fruit is great and waterish.

French Poppy beareth a faire flower, and the seed will make you sleepe.

Raddish is sauce for steyned stomacks, as Capers, Olives, and Cucumbers, call the seedenall Summer long bers and there, and you shall have them as sweet as young and fresh.

Rosemary, the greatest Herbe in England in other Countries requires to set slips in the earth after Lammes, is the surest way. Seeke some may please well, in they be sowne in hot weather, somewhat moist, and good earth: for the Pearbe, though great, is not so tender (as I take it) brought from the Curriers for to be in the cold earth: set them in a Window well. The use is much in meats, more in Physick, most for the head.

Rue, or Herbe of Grace, continually greene, the slips are set. Solast long in February, but be not too, it is too strong for winter. Housewife's foot; unless the soil be too dry, it is the best, against the plague: set them in the earth, if you will have them last in the garden.

Saffron sows the peere his roots should be sowne at Midsummer: for when all other herbes growe most, it dyeth. It groweth at Michael's tide, and groweth all winter: keep his flowers from birds in the morning, and gather the yellow (for they shape much like a Myrry egg, and after dry them:

they

they be precious, expelling diseases from the heart & stomache.
Sauery seeds and dyes the first yeere, good for my Huswifes
pot and pye.

Sage : set slips in May, and they grow aye : Let it not seed,
it will last the longer. The use is much and common. The
Spanish Monerbe is tritum :

Cur moritur homo, cum salvia crescit in horto?

Skerots, the roots are set when they be parted, as Pyonic,
and Flower-beluce at Michael-tide : the root is but small and
very sweet. I knowe none other speciall use but the Table.

Sweet Sicily, long lasting, pleasantly tasting, either the seed
sowne, or the root parted, and remoued, makes increase, it is
of like use with Wall-pye : *quod in chana, admodum vtilis est*

Strawberries long lasting, set rootes at Michael-tide, or the
spring, they be red, white and Greene, and ripe, when they bee
great and soft, some by Mid-Summer with vs. The use is : they
will coole my Housewife well, if they bee put in Wine or
Creame with Spynar : *quod in uinum facillime aqua solet*

Time, both seeds, slips and rootes are good. If it seed not, it
will last thre or foure yeeres or more, it smelleth comfortably.
It hath much use : namely, in al cold meats, it is good for Bees.

Turnep is sowne. In the second yeere they beare plenty of
seed : they require the same thing of sowing that Carrots doe :
they are sick of the same disease that Cabbages be. The roots
increaseth much, it is most wholesome, if it be sowne in a good
and well tempered earth : Soueraigne for eyes and Bees.

I reckon these hearbs onely, because I teach my Countrey
Housewife, not skilfull Herbs, and it should be an endless la-
bour, and would make the matter tedious to reckon vp, Landi-
beefe, Stocke-Iuly-flowers, Charuall, Valerian, Go-to-bed-at-
noone, Piony, Licoras, Tanse, Garden-mints, Germander,
Centaurie, and a thousand such physicke Hearbs. Let her
first grow cunning in this, and then she may enlarge her Gar-
den, as her skill and abilitie increaseth. And to helpe her the
more, I haue set her downe these observations.

CHAP. IX.

Generall Rules in Gardening.

In the South parts Gardening may be more timely, & more safely done, than with vs in Yorkshire, because our ayre is not so favourable, nor our ground so good.

2 Secondly most seeds shakt, by turning the good earth, are renewed, their mother the earth keeping them in her bowels, till the Sunne their Father can reach them with his heat.

3 In setting hearbs, leane no top more then an handfull above the ground, nor more than a foot vnder the earth.

4 Twine the rootes of those slippes you set, if they will abide it. Gilly-flowers are too tender.

5 Set maist, and some dry.

6 Set slips without shanks at any time, except at spring summer, and in frosts.

7 Weeding spoiles the most rootes, as drawing the heart and sap from the root.

8 Gather for the pot and medicines, hearbs tender and green, the sap being in the top, but in winter the root is best.

9 All the hearbs in the Garden for flowers, would once in seven yeeres be rennewed, or soundly watered with puddle water, except Rosemarie.

10 In all your Gardens and Dycharbs, bankes and seates of Camomile, Weny-royall, Daisies and Violets, are seemely and comfortable.

11 These require in hole plots: Artichokes, Cabbages, Turneps, Parsneps, Onyons, Carrets, and (if you will) Salsfran, and Scerrits.

12 Gather all your seeds, dead, ripe, and dry.

13 Lay no dung to the rootes of your hearbs, as vsually they doe: for dung not melted is too hot, even for trees.

14 When setting and sowing (so the rootes stand not past a foot distance) is profitable, for the hearbs will like the better. Greater hearbs would haue more distance.

15 Set and sow hearbs in their time of growth (except at
Spit-

Whissummer, for then they are too too tender) but trees in their time of rest.

16 A good Housewife may, and will gather store of hearbs for the pot, about Lammaz, and dry them, and potwond them, and in winter they will make good service.

Thus haue I lined out a Garden to our Countrey Housewines, and giuen them rules for common hearbs. If any of them (as sometimes they are) be knotty, I refer them to chap. 3. The skill and paines of weeding the Garden with weeding Weeding. knives of fingers, I referre to themselves, and their maids, willing them to take the opportunitie after a showre of raine: withall I aduise the Mistresse, either to be present her selfe, or to teach her maids to know hearbs from weeds.

A good note,

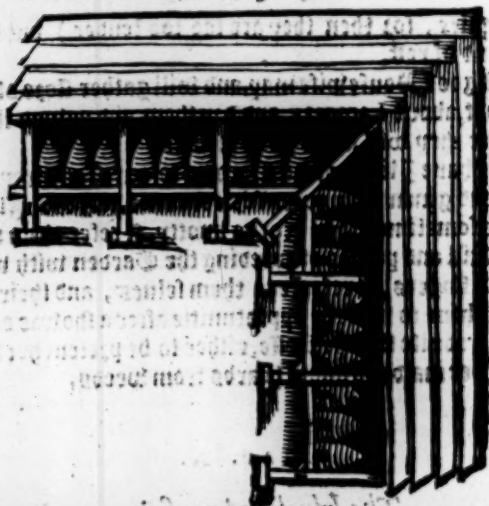
CHAP. X.

The Husbandry of Bees.

There remaineth one necessarie thing to bee prescribed, which in mine opinion makes as much for ornament as either Flowers, or for use, or cleantinesse, and I am sure as commodious as any of, or all the rest: which is Bees, well ordered. And I will not account her any of my good Housewines, that wanteth either Bees or skilfulnesse about them. And though I know some haue written well and truly, and others more plentifully upon this Theame: yet somewhat haue I learned by experience (being a Bee-master my selfe) which hitherto I cannot finde put into writing, for which I thinke our Housewifes will count themselves beholding vnto me.

The first thing that a Gardiner about Bees must be careful for, is an house not stakes and stones abroad, Sub dio: for stakes rot and reele, raine and weather eat your blues, and cowers, and cold moft of all is hurtfull for your Bees. Therefore you must haue an house made along, a sure dry wall in your Garden, neere, or in your Orchard: for Bees loue Flowers and wood with their hearts.

Beehouse.



This is the fojnte, a frame ſtanding on poſts with a Floze (if you would have it hold more Hives, two flozes boarded) laid on Bearers, and backe poſts, covered over with boards, ſlate-wiſe. Let the flozes be without holes or cliſts, left in caſting time, the Bees ly out, and looſe. And though your Hives ſtand within an hand-breadth the one of another, yet ſhall Bees know their ſtore home. In this frame may your Bees ſtand dry and warme, eſpecially if you make boozes like boxes of windowes to ſhadow them in Winter, as in an houſe; provided you leave the Hives mouths open. I my ſelfe have deſigned ſuch an houſe, and I finde that it keepeſ and ſtrengthens my Bees much, and my Hives will laſt five to one.

Hives.

Sp. Markam commendeth Hives of tow. I diſcommend them not; but ſtraw Hives are in uſe with us, and I thinke with all the world, which I commend for ſimplicity, cloſeneſſe, warme- neſſe and dryneſſe. Bees have no externall motions of dabbing or ſuch like. Sometimes occaſion ſhall bee offered to liſt and turne Hives, as ſhall appeare hereafter. One light entire hive of ſtraw in that caſe is better, than one that is dabbed, twiſty and cumberſome. I wiſh every hive, for a keeping ſwarme, to hold thre pecks at leaſt in meaſure. For too little Hives pro-
cure

cure Bees, in casting time, either to lye out, and loyter, or else to cast befoze they bee ripe and strong, and so make weake swarmes and untimely: Whereas if they haue roomes sufficient, they ripen timely, and casting seasonably, are strong, and fit for labour presently. Neither would the hie be too too great, for then they loyter, and waste meat and time.

Your Bees delight in wood, for feeding, especially for casting. Hiving of Bees.
ing: therefore want not an Orchard. A Mayes swarme is worth a Hares Foale: if they want wood, they be in danger of flying away. Any time befoze Midsummer is good, for casting and timely befoze Iuly is not euill. I much like M. Markams opinion for hiving a swarme in combs of a dead or forsaken hie, so they be fresh and cleanly. To thinke that a swarme of your owne, or others, will of it self come into such an hie, is a meere conceit, Experto crede Roberto. His swearing with honey, is to no purpose, for the other Bees will eate it up. If your hie be knit in the top of a tree, as they will, if the winde beate them not to fall downe: let the hie be as ladder described in the Orchard, doe you service.

The lesse your Spelken are, the lesse is the waste of your honey, and the more easly will they drinke, when you take your Bees, from the Spelken they want, and are top Spelkes are sufficient. The Bees will follow their Combs to the Hie. A little honey is good: but if you want, Fennell will serue to rub your Hie withall. The Hie being drest and ready spelkt, rubb and the hole made for their passage (if tis no hole in the Hie, but a piece of wood back'd, to save the hie and keep out Wile) make in your Bees, or the most of them (for all commonly you cannot get) the remainder will follow. Many use smoke, Pettles, &c. which I utterly dislike: for Bees lye not to be molested. Kinging in time of casting is a meere waste, violent bayling of them to supply a hie, but also Bees of all other creatures, lye cleauesse any paine. Therefore handle them fearfully and quietly, and their keeper whom they know, may doe with them, what he will, without hurt. Having hired at night, bring them to their seat, and your Hies all of one yere together. Spelkes:
signes of bearding, if they be strong, and that they will avoid dead young Bees and Drones.

2. They

2 They will sweat in the morning, till it runne from them; alwaies when they be strong.

Signes of casting.

1 They will flye Doones, by reason of heat.

2 The yong swarme will once or twice in some faire season, come forth mustering, as though they would cast, to proue themselves, and goe in againe.

3 The night befoze they cast, if you lay your eare to the Hives mouth, you shall heare tido or thye; but especially one above the rest, cry, Ty, bp, bp; or, Tont, tont, tont, like a trumpet, sounding the alarm to the battell.

Such descanting there is, of, and about the Wasler-bee; and their degrees, orders, and government: but the truth in this point is rather imagined, then demonstrated. There are some conjectures of it, viz. we see in the Combes viuers greater houses than the rest, and we heare commonly the night befoze they cast, sometimes one Bee, sometimes two, or more Bees, give a loken and severall sound from the rest, and sometimes Bees of greater bodies than the common sort: but what of all this? I leave not on conjectures, but love to set downe that I know to be true, and leave these things to them that love to dinkie. Keepe none weakes, for it is hazard, oftentimes with losse: Feeding will not helpe them: for being weakes, they cannot come downe to meat, or if they come downe, they dye, because Bees weakes cannot abide cold. If none of these, yet will the other Bees being strong, smell the honey, and come and spoile, and kill them. Some helpe is in casting time, to put two weakes swarmes together, or as *Sp. Markam* well saith: Let them not cast late, by raising them with wood or stone: but with tups (say I.) An tups is three or foure weathes, wrought as the hine, the same compasse, to raise the hine withall: but by experience in tryall, I have found out a better way by Clustering, for late or weakes swarmes hitherto not found out of any that I know. What is this: After casting time, if I have any stocke yong, and hindered from timely casting, with former Winters povertie, or unill weather in casting time, with two handles & crookes, fitted for the purpose, I turne by that stock so pestered with Bees, and set it on the croone, upon which so turned with the mouth upward, I place another empty hine

Catching.

Clustering.

hine well mett, and spelt, into which without any labour, the
 swarme that would not depart, and cast, will presently ascend,
 because the old Bees have this qualitie (as all other breeding
 creatures have) to expell the young; when they have brought
 them up. Where will the swarme build as kindly, as if they
 had of themselves been cast. But be sure you lay betwixt the
 hives some straight and cleemly sticke or stiches, or rather a
 board with holes, to keepe them asunder: otherwise they will
 loyne their hives together so fast, that they cannot be parted.
 If you so keepe them asunder at Michael-ride. If you like the
 weight of your swarme (for the goodnesse of swarmes is tried
 by weight) forcatched, you may set it by for a stocke to keepe.
 The head in any case the combs be not broken; for then the
 other Bees will smell the honey, and spoyle them. This have
 I tried to be very profitable for the saving of Bees. The
 Instrument hath this forme. The
 great straight piece is wood, the
 rest are iron claspes and nyles,
 the claspes are faste in the
 stipes: Two men with two of
 these, fastened to the pine, will
 easily turne it by.



They gather not till July; for then they be discharged of their
 young, or else they are become now strong to labour, and now
 sap in flowers is strong and yound: by reason of time, and force
 of sunne. And now also in the month (and not before) the
 herbs of greatest vigour put their Flowers; As Beanes,
 Fennell, Burrage, Rape, &c.

The most seasonable weather for them, is heat, & drought, be-
 cause the nesh Bee can neither abide cold or wet: and showres
 (which they well foresee) doe interrupt their labours, unless
 they fall on the night, and so they further them.

After casting time, you shall benefit your stocks much, if you
 helpe them to kill their Droanes, which by all probabilitie
 and judgement, are an idle kinde of Bees, and wastefull.
 Some say they breed and have seen yong Droanes in taking
 their honey, which I know is true. But I am of opinion, that
 there are also Bees which have lost their stings, and so being,
 as it were gelded, become idle and great. There is great use

Droanes.

of them: Dons, et natura nihil facit frustra. They hate the bees, and cause them cast the sooner. They neuer come sooty, but when they be ouer heaped: They neuer come from labour: neither casting time, and when the Bees want meat; yet still see the labouring Bees fallen on them, two, three, or foure at once, as if they were thienes to be led to the gallows, and killing them, they cast out, and draine them farre from home, as hatefull enemies. Our Housewife if she be the keeper of her stee bees (as she had need to be) may with verie hard labour in the heat of the day, safely destroy them in the hives mouth. Some vse towards night, in a hot day, to set before the mouth of the hive a thin board, with little holes, in at which the bees may enter, but not the diseases. So that you may kill them at your pleasure.

Annoyances.

Snayles spoile them by night like thieves: they come so quietly, and are so fast, that the Bees scarce them not. Look early and late, especially in a thine or dewy morning, or morning.

Spice are no lesse hurtfull, and the rather tobinde of straws: and therefore coverings of straws draine them. They will in eyther at the mouth, or thence themselves in hole. The remeedy is good Cats, Kats-bane and watching.

The cleanly Bees hate the sootie and poisse; therefore let your Bees stand neerer your garden, than your Wels house or Kitchen.

They say Sparrowes & Swallows are enemies to Bees, but I see it not.

Some Bees perish by winters cold, that by all other hurts: For the bee is tender and nice, and onely liues in warme weather, and dyes in cold: And, therefore let my Housewife be perswaded, that a warme dry house before described, is the chiefest help she can make her bees against this, and many other mischiefs. Many vse against cold in winter, to stop up their hives close, and some set them in houses, perswading themselves, that thereby they relieue their bees. First, toling and mooring is hurtfull. Secondly, in houses, going, knocking, & shaking is noysome. Thirdly, too much heat in a house is unnatural for them: but lastly, and especially, Bees cannot aboue to be kept close up. For at euery warme season of the sun they re-
uiue,

nine, and living rats, and eating mill-whees putge abroad. (In her home) the cleane Bees will not purges the. You see what it is for any living creature, not to be laden with. Being thus in the world, as the poor rats in the place, and you shall see them yarme and pen, as to many hungry prisoners. Therefore impound not your Bees, so profitable and free a creature.

Let none stand above three yeeres, else the combs will be blacke and knotty, your honey will be thin and uncleanly: and if any cost after three yeeres, it is such as have swarmes, and old Bees kept all together, which is great losse. Smoothing with ragges, rosin, or limstone, many vse: some vse drayning in a tub of cleane water, & the water well hysled, will be good botcher. Draw out your Welkes immediately with a paire of pinchars, lest the wood grow soft and swell, & so will not be drayned, then must you cut your bine.

Taking of Bees.

Let no fire come neere your bane, for fire softneth the wane and doles, and makes them runne with the honey. Fire softneth, weakeneth, and hindereth honey for purging. Brake your Combes small (when the dead empty combes are parted from the laden combes into a Bue, boyle over a great bonle, or vessell, with two staves, and so let it runne two or three dayes. The sooner you tunne it by, the better will it purge. Runne your swarme honey by it selfe, and that shall be your best. The elder your Bines are, the worse is your honey.

Srayning honey.

Usuall vessels are of clay, but after wood be satiated with Honey (so) it will leake at first: so Honey is maruellously searching, the thicke, and therefore vertuous) I vse it rather because it will not bzeake so soone, with falls, frosts, or otherwise, and greater vessels of clay will hardly last.

Vessels.

When you vse your honey, with a spoone take off the skin which it hath put by.

And it is woorth the regard, that Bees thus used, if you have but forty stocks, shall yeeld you moze comodity clearly than forty acres of good ground. And thus much may suffice, to make good Housewives lone and have good Gardens and Bees.

The Contents of the Country

Hauswises Garden

Chap. 1. The Soyle.	pag. 1.	Beehoule.	pag. 17.
Chap. 2. Site.	p. 2.	Hives.	p. 18.
Chap. 3. Forme.	p. 2.	Hiving of Bees.	p. 19.
Chap. 4. Quantitie.	p. 8.	Spelkes.	p. 19.
Chap. 5. Fences.	p. 8.	Catching.	p. 20.
Chap. 6. Two Gardens.	p. 8.	Clustering.	p. 20.
Ch. 7. Division of hearbs.	p. 9.	Droanes.	p. 21.
Chap. 8. The husbandry of hearbs.	pag. 10.	Amoyances.	p. 22.
Chap. 9. Generall rules.	p. 18.	Taking of Bees.	p. 23.
Chap. 10. The Husbandry of Bees.	p. 18.	Strayning honey.	p. 23.
		Vessels.	p. 23.



A MOST PROFITABLE

new Treatise, from approued experience of
the Art of propagating Plants : by

Simon Harward.

CHAP. I.

The Art of propagating Plants.



There are foure sorts of Planting, or propagating, as in laying of shootes or little branches, whiles they are yet tender in some pit made at their foote, as shall bee said hereafter, or vpon a little ladder or Basket of Earth, tyed to the bottome of the branch, or in bearing a Willow thow, and putting the branch of the Tree into the hole, as shall be fully declared in the Chapter of Grafting. There are likewise seasons to propagate in; but the best is in the Spring, and March, when the Trees are in the Flower, and doe begin to grow lussy. The young planted Stems or little Grafts must be propagated in the beginning of Winter, a foot deepe in the earth, and good manure mingled amongst the earth, which you shall cast forth of the pit, wherein you meane to propagate it, to tumble it in vpon it againe. In like manner your superfluous Stems, or little Plants must be cut close by the earth, when as they grow about some small Tree, which we meane to propagate, for they would doe nothing but rot. For to propagate, you must digge the earth round about the tree, that to your rootes may be laid in a man-

not half bare. Afterward draw into length the pit on that side where you meane to propagate, and according as you perceive that the roots will be best able to reach, and be covered in the same pit, to the depth, and that with all gentleness, and close your sides, in such sort, as that the breadth which is in the place where it is grafted, may bee a little lower then the sides of the new Mould, growing out of the earth, even so high as it possibly may be. If the trees that you would propagate be somewhat thicke, and thereby the harder to ply, and somewhat stiffe to lay in the pit: then you may wet the stocks almost to the midst, betwixt the root and the breasting place, and so with gentle handling of it, bow downe into the pit the wood which the grafts haue put forth, and that in as round a compass as you can, keeping you from breaking of it: afterward lay ouer the cut, with gunned Clare, or with granell and sand.

CHAP. II.

Grafting in the Barke.

Grafting in the Barke, is best from mid-August, to the beginning of Winter, and also when the Westerne winde beginneth to blow, being from the 7. of February, unto the 11. of June. But there must care bee had, not to graffe in the barke in any rainy season, because it would wash away the matter of wyning the one and the other together, and so hinder it.

Grafting in the buds, is best in the Summer time, from the end of May, untill August, as being the time when the trees are strong and lusty, and full of sap and leaues. To wit, in a hot Countrey, from the midst of June, unto the midst of July: but cold Countries, to the midst of August, after some small Showres of Raine.

If the Summer be so exceeding dry, as that some trees doe withhold their sap, you must wait the time till it do returne.

Graft from the fall of the Pome, untill the end of the old. You may graft in a Cleft, without having regard to the Raine, for the sap will keepe it off.

You may graft from mid-August, to the beginning of November: Cakes hung with straw both mightily preserve the graft.

It is better to graft in the evening, then the morning.

The furniture and tooles of a Grafter, are a Basket to lay his Grafts in, Clay, Crannell, Sand, or strong Earth, to lay over the plants clonen: Pottle, Woollen clothes, barks of Willow to layne to the late things & earth be soze spoken, and to keepe them fast: Dyers to tye againe upon y barkes, to keepe them firme and fast: Bombed Warr, to dresse and couer the ends and tops of the grafts newly cut, that so the raine and cold may not hurt them, neither yet the sap rising from belowe, be constrained to retorne againe vnto the shootes. A little Sawe or hand-Sawe, to sawe off the stocks of the plants, a little Knife or Pen-knife: to graft, and to cut and sharpen the grafts, that so the barkemay not pill nor be broken; which often cometh to passe when the graft is full of sap. You shall cut the grafte so long, as that it may fill the clefts of the plant, and therewithall it must be left thicker on the barkes side, that so it may fill up both the clefts and other incisions, as any need is to be made, which must be alwaies well ground, well burnished without all rust. Two wedges, the one broad for thicke trees, the other narrow for lesse and tender trees, both of them of box, or some other hard and smooth wood, or Steele, or of very hard iron, that so they may need lesse labour in making them sharpe.

A little hand-Bill to set the plants at moze libertie, by cutting off superfluous boughs, hel'd of Knoxy, Box, or Brazell.

CHAP. III.

Grafting in the cleft.

The manner of grafting in a cleft, to wit, the stock being clow'd, is proper not onely to trees, which are as great as mans legges or armes, but also to greater. It is true, that in as much as the tree cannot easily be clonen in their stocke, that therefore it is expedient to make incision in some one of their branches, and not in the maine body, as was se to be practised in great Apple-trees, & great Pearre-trees, and as we have already declared heretofore.

To graft in the cleft, you must make choice of a graft that is full of sap and iuyce, but it must not bee, but till from after Lammas untill Separch: And you must not thus graft in any tree

tree that is already budded, because a great part of the sap & sap would be already mounted up on high, and risen to the top, and there dispersed and scattered hither and thither, into every sprigge and twigge, and vse nothing welcome to the graft.

6.

You must likewise be resolved not to gather your graft the day you graft in, but ten or twelue dayes before: for otherwise, if your graft is new gathered, it will not be able easily to incorporate it selfe with the body and stocks, where it shall be grafted; because that some part of it will dye, and by this meanes will be a hinderance in the stocks to the rising up of the sap, which it should communicate vnto the graft, for the making of it to put forth. And whereas this dyed part will fall a crumbling, and breaking thorow his rottenesse, it will canse to remaine a concavittie, or hollow place in the stocks, which will bee an occasion of a like inconvenience to befall the graft. Whereover, the graft being new and tender, might easily be hurt of the bands, which are of necessitie to be tyed about the stocks, to keepe the graft firme and fast. And you must further see, that your plant was not of late remoued, but that it haue already fully taken root.

When you are minded to graft many grafts into one cleft, you must see that they be cut in the end all alike.

7.

See that the grafts be of one length, or not much differing; and it is enough, that they haue three or foure sylets without the wyench when the plant is once sawed, and lopped of all his small stiens and shootes round about, as also impled of all his branches, if it haue many: then you must leane but two at the most, before you come to the cleaning of it: then put to your little saw, or your knife, or other edged tooles that is very sharpe, cleane it quite thorow the middlest, in gentle & soft sort: First, tying the stocks very sure, that so it may not cleane further then is need: and then put to your wedges into the cleft, vntill such time as you haue set in your grafts, and in cleaning of it, hold the knife with the one hand, and the tree with the other, to helpe to keepe it from cleaning too farre. Afterwards put in your wedge of Waxe or Bayill, or bone at the small end, that so you may the better take it out againe, when you haue set in your grafts.

8.

If the stocks be clouen, or the Waxe loosed too much from the

The Art of propagating Plants.

the wood: then cleane it downe lower, and set your grafts in, and looke that their incision bee fit, and very iustly answerable to the cleft, and that the two saps, first, of the Plant and graft, be right and euen set one against the other, and so handsomely fitted, as that there may not be the least appearance of any cut or cleft. For if they doe not thus iunpe one with another, they will neuer take one with another, because they cannot worke their seeming matter, and as it were cartilaginous glue in convenient sort or manner, to the gluing of their ioynts together. You must likewise beware, not to make your cleft overthwart the pitch, but somewhat aside.

The barke of your Plant being thicker then that of your Graft, you must set the graft so much the more outwardly in the cleft, that so the two saps may in any case bee ioyned, and set right the one with the other: but the rinde of the Plant must be somewhat more out, then that of the grafts, on the cloven side.

To the end that you may not faile of this worke of iunping, you must principally take heed, not to over cleave the Stockes of your Trees. But before you widen the cleft of your iwedges, binde, and goe about the Stocke with two or three turnes, and that with an Awler, close drawn together, vnderneath the same place, where you would haue your cleft to end, that so your Stocke cleave not too farre, which is a very vsuall cause of the miscarriying of grafts, inasmuch as hereby the cleft standeth so wide and open, as that it cannot be shut, and so not grow together againe; but in the meane time spendeth it selfe, & breatheth out all his life in that place, which is the cause that the Stocke and the Graft are both spilt. And this falleth out most often in Plum-trees, and branches of trees. You must be careful to ioyne the rinds of your Grafts, and Plants, that nothing may continue open, to the end that the wind, moisture of the clay or Raine, running vpon the grafted place, do not get in: when the Plant cleaueth very straight, there is not any danger nor hardnesse in sloping downe the Graft. If you leaue it somewhat vneuen, or rough in some places, so that the saps both of the one and of the other may the better grow, and be glued together, when your grafts are once well ioyned to your Plants, draw out your Wedges very softly, lest you dis-

The Art of propagating Plants.

place them againe, you may leave there within the cleft some small end of a wedge of Greene wood, cutting it very close with the head of the Stocks: Some cast glue into the cleft, some Sugar, and some gummed Ware.

- II. If the Stocke of the Plant whereupon you intend to graft, be not so thicke as your graft, you shall graft it after the fashion of a Goates foot, make a cleft in the Stocke of the Plant, not direct, but byas, and that smooth and even, not rough: then apply and make fast thereto, the graft withall his Bark on, and answering to the barke of the Plant. This being done, couer the place with the fat earth and mosse of the Woods tyed together with a strong band: sticke a pole of Wood by it, to keepe it steadfast.

CHAP. IIII.

Grafting like a Scutcheon.

I In grafting after the manner of a Scutcheon, you shall not vary nor differ much from that of the Flute or Pipe, save onely that the Scutcheon-like graft, having one eyelet, as the other hath yet the wood of the tree whereupon the Scutcheon-like graft is grafted, hath not any knob, or budde, as the wood whereupon the graft is grafted, after the manner of a pipe.

- I 2. In Summer when the trees are well replenished with sap, and that their new Shiens begin to grow some-what hard, you shall take a shoot at the end of the chiefe branches of some noble and reclaimed tree, whereof you would saue some fruit, and not many of his old stozz or wood, and from thence raise a good eylet, the tayle and all thereof to make your graft. But when you choose, take the thickest, and grossest, divide the tayle in the middell, befoze you doe any thing else, casting away the lease (if it be not a Peare-plum-tree: for that would haue two or thzee leanes) without remouing any moze of the said tayle: after ward with the point of a sharpe knife, cut off the Barke of the said shoote, the patterne of a shield, of the length of a naple.

- I 3. In which there is onely one eylet higher then the middell together, with the residue of the tayle which you left behinde: and so the lifting vp of the said graft in Scutcheon, after that you haue cut the barks of the shoot round about, without cutting

ting of the wood within, you must take it gently with your thumb, & in putting it away you must presse upon the wood from which you pull it, that so you may bring the bud and all away together with the Scutcheon: for if you leave it behinde with the wood, then were the Scutcheon nothing woꝝth. You shall finde out if the Scutcheon be nothing woꝝth, if looking within when it is pulled away from the wood of the same sate, you finde it to haue a hole within, but moze manifestly, if the bud doe stay behind in the Wood, which ought to haue been in the Scutcheon.

Thus your Scutcheon being well raised and taken off, hold it a little by the taple betwixt your lips, without wetting of it, euen untill you haue cut the Barke of the tree where you would graft it, and looke that it be cut without any wounding of the wood within, after the manner of a crutch, but somewhat longer then the Scutcheon y^e you haue to set in it, and in no place cutting the wood within; after you haue made incision, you must open it, and make it gape wide on both sides, but in all manner of gentle handling, and that with little Sizers of bone, and separating the wood and the barke a little within, euen so much as your Scutcheon is in length and breadth: you must take heed that in doing hereof, you doe not hurt the Barke.

This done, take your Scutcheon by the end, and your tails which you haue left remaining, and put into your incision made in your tree, lifting by softly your two sides of the incision with your said Sizers of bone, and cause the said Scutcheon to loyne, and lye as close as may be, with the wood of the tree, being cut, as aforesaid, in waying a little upon the end of your rinde: so cut and let the upper part of your Scutcheon lye close vnto the upper end of your incision, or barke of your said tree: afterward binde your Scutcheon about with a band of Hempe, as thicke as a pen of a quill, moze or lesse, according as your tree is small or great, taking the same Hempe in the middell. to the end that either part of it may performe a like service; and weathring and binding of the said Scutcheon into the incision of the Tree, and it must not be tyed too strait, for that would keepe it from taking the loyning of the one sap to the other, being hindered thereby, and neither the Scut-

14.

15.

The Art of propagating Plants.

17. cheon, no; yet the Vempe must be moist, or wet: and the moze easily to binde them together, begin at the backe side of the Tree, right ouer against the middelt of the incision, and from thence come so;ward to ioyne them befoze, aboue the eylet and tayle of the Scutcheon, crossing your band of Vempe, so oft as the two ends meet, and from hence returning backe againe, come about and tie it likewise vnderneath the eylets: and thus cast about your band still backward and so;ward, untill the whole cleft of the incision bee couered aboue and below with the said Vempe, the eylet onely excepted, and his tayle which must not be couered at all; his tayle will fall away one part after another, and that shortly after the ingrafting, if so bee that the Scutcheon will take. Leane your trees and Scutcheons thus bound, for the space of one moneth, and the thicker, a great deale longer time. Afterward looke them ouer, and if you perceine the to grow together, untie them, or at the leastwise cut the Vempe behinde them, and leane them vncouered. Cut also your branch two or thzee fingers aboue that, so the impe may prosper the better: and thus let them remaine till after Winter, about the moneth of March, and Aprill.

18. If you perceiue that your bud of your Scutcheon do swell and come so;ward: then cut off the tree thzee fingers or thereabouts, aboue the Scutcheon: for if it bee cut off too neere the Scutcheon, at such time as it putteth forth his first blossome, it would be a means greatly to hinder the slowzing of it, and cause also that it should not thzine and prosper so well after that one yeere is past, and that the shoote beginneth to bee strong: beginning to put forth the second bud and blossome; you must goe so;ward to cut off in byas-wise the thzee fingers in the top of the tree, which you left there, when you cut it in the yeere going befoze, as hath been said.

19. When your shoote shall haue put forth a great deale of length, you must sticke downe there, even hard ioyned thereunto, little stakes, tying them together very gently and easily; and these shall stay your shootes and prop them vp, letting the winde from doing any harme vnto them. Thus you may graff white Roses in red, and red in white. Thus you may graff two or thzee scutcheons: provided that they bee all of one side: for they will not be set equally together in beight, because

because then they would bee all Starvelings, neither would they be directly one over another; for the lower would stay the rising up of the sap of the tree; and so those above should consume in penurie; and undergoe the aforesaid inconvenience. You must note, that the scutcheon which is gathered from the Slen of a tree whose fruite is sowre, must be cut in square forme, and not in the plaine fashion of a scutcheon. It is ordinarily to graffe the sweet Quince tree, bassard Peach tree, Appicock tree, Intube tree, sowre Cherry tree, sweet cherry tree, & Chestnut tree, after this fashion, howbeit they might be grafted in the clost more easily, & more profitably; although divers be of contrary opinion, as thus best: Take the grafts of sweet Quince tree, and bassard Peach tree, of the fairest wood, and best sed that you can finde, growing upon the wood of two yeeres old, because the wood is not so firme nor solid as the others: and you shall graffe them upon small Plum tree stockes, being of the thicknesse of ones thumbe; these you shall cut after the fashion of a Goates foot: you shall not goe about to make the clef of any more sides then one, being about a foote high from the ground; you must open it with your small wedge: and being thus grafted, it will seeme to you that it is open but of one side; afterward you shall wrap it up with a little Masse, putting thereto some gummed War, or clay, and binde it up with Dyers to keepe it surer, because the stocke is not strong enough it selfe to hold it, and you shall furnish it every manner of way as others are dealt withall: this is most profitable.

20

21

The time of grafting.

All moneths are good to graft in, (the moneth of October and November onely excepted) But commonly, graft at that time of the winter, when sap beginneth to arise.

In a cold Countrey graft later, and in a warme countrey earlier.

The best time generall is from the first of February, untill the first of May.

The grafts must alwayes bee gathered, in the old of the spoone.

For grafts, choole shootes of a yeere old, or at the furthermost two yeeres old.

The Art of propagating Plants.

If you must carry grafts farre, picke them into a Turnep newly gathered, or lay earth about the ends.

If you set stones of Plummes, Almonds, Nuts, or Peaches: First let them lye a little in the Sunne, and then sleepe them in Milke or Water, thre or foure dayes befoze you put them into the earth.

Dye the kernels of Pippins, and sow them in the end of Nouember.

The stone of a Plum-tree must be set a foot deepe in Nouember, or February.

The Date stone must be set the great end downwards, two cubits deepe in the earth, in a place enriched with dung.

The Peach stone would be set presently after the Fruit is eaten, some quantitie of the flesh of the Peach remaining about the Stone.

If you will haue it to be excellent, graft it afterward vpon an Almond tree.

The little Stems of Cherry-trees, grawn thick with haire, rats, and those also which doe grow vp from the rootes of the great Cherry-trees, being remoued, doe grow better and sooner then they which come of stones: but they must bee remoued and planted while they are but two or thre yeeres old, the branches must be lopped.

The Contents of the Art of propagating Plants.

T He Art of propagating Plants.	page 1.	Inoculation in the Barke.
Grafting in the Barke.	p. 2.	Emplaister-wise grafting.
Grafting in the cleft.	p. 3.	To picke stickes to beare the first yeere.
Grafters Toolles.		To haue Cherries or Plums without stones.
Time of planting & setting.		To make Quinces great.
Time of grafting.		To set stones of Plummes, Dates, Nuts, and Peaches.
How to cut the stumps in grafting.		To make fruit smell well.
Sprouts and imps: how gathered.		To plant Cherry-trees.
Grafting like a Scutcheon.	p. 6	



THE
HUSBAND-MANS
FRUITFULL ORCHARD.

For the true ordering of all sorts of fruits in their due seasons; and how double increase cometh by care in gathering yeere after yeere: as also the best way of carriage by Land or by Water: With their preservation for longest continuance.



Cf all Stone Fruit, Cherries are the first to be gathered: of which, though we reckon foure sorts; English, Flemish, Gascoyne & Black, yet are they reduced to two, the early, and the ordinarie: the early are those whose grafts came first from France and Flanders, and are now ripe with vs in May: the ordinarie is our owne naturall Cherry, and is not ripe before June; they must be carefully kept from Birds, either with nets, noise, or other industry.

They are not all ripe at once, nor may be gathered at once, therefore with a light Ladder, made to stand of it selfe, without hurting the boughes, mount to the tree, and with a gathering booke, gather those which be full ripe, and put them into your Cherry-pot, or by the hanging by your side, or upon any bough you please, and be sure to break no stalk, but that the cherry hangs by; and pull them gently, lay them downe tenderly, and handle them as little as you can.

For the conueyance or postage of Cherries, they are best to carry to be carried in broad Baskets like Bines, with smooth yeelding Cherries.

Gathering
of Cherries.

The Husband-mans fruitfull Orchard.

ding bottomes, onely two broad Laths going along the bottome: and if you doe transport them by Ship, or Boat, let not the Sides be full to the top, lest letting one upon another, you bruisse and hurt the Cherries: And carrye them backe, then in Panpers well lined with Fearn, and packt full and close is the best and safest way.

Other stone
fruit.

Now for gathering of all other stone-fruit, as Pertarines, Apricocks, Peaches, Pearre-plummes, Damsons, Bullas, and such like, although in their severall kindes, they seeme not to be ripe at once on one tree: yet when any is ready to drop from the tree, though the other seeme hard, yet they may also be gathered, for they have received the full substance the tree can give them; and therefore the day being faire, and the dewe draine away; set up your Ladder, and as you gathered your Cherries, so gather them: onely in the bottomes of your large Sides, where you part them, you shall lay Pettles, and likewise in the top, for that will helpe to ripen those that are most unready.

Gathering
of Peares.

In gathering Peares, are three things obserued; to gather for expence, for transportation, or to sell to the Apothecarie. If for expence, and your owne vse, then gather them as soone as they change, and are as it were halfe ripe, and no more but those which are changed, letting the rest hang till they change also: for thus they will ripen kindly, and not rot so soone, as if they were full ripe at the gathering. But if your Peares be to be transported farre either by Land or Water, then pull one from the tree, and cut it in the midst, and if you finde it hollow about the choare, and the kernell a large space to lye in: although no Peare be ready to drop from the tree, yet then they may be gathered, & then laying them on a heape one upon another, as of necessity they must be for transportation, they will ripen of themselves, and eate kindly: but gathered before, they will wither, shrinke and eate rough, losing not onely their taste, but beauty. Now for the manner of gathering; albeit some climbe into the trees by the boughes, and some by Ladder, yet both is amisse: the best way is with the Ladder before spoken of, which standeth of it selfe, and with a basket and a line, which being full, you must gently let down, and keeping the String still in your hand, being emptied, draine it by againe,

The first and main fruitfull Orchard

43

ageles, and so finish your labours, without troubling your selfe,
or hurting the tree.

To be gathered

Now touching the gathering of Apples; it is to be done according to the ripening of the fruit; your Summer Apples first, and the winter after. For Summer fruits, when it is ripe, some will drop from the tree, and birds will bee picking at them: But if you cut one of the greenest; and finde it as was shew'd you before of the Poire: then you may gather them, and in the house they will come to their ripenesse and perfection. For your Winter fruit, you shall know the ripenesse by the obseruation before shew'd; but it must be gathered in a faire, sunny, and dry day, in the waile of the Poone, and no winde in the East, also after the heat is gone away: for the least wet or moisture will make them subject to rot and mill-dew: also you must haue an appon to gather in, and to empty into the great baskets, and a hook to draw the boughs unto you, which you cannot reach with your hands at ease: the appon is to be an ell every way, loopt by to your girdle, so as it may serue for either hand without any trouble: and when it is full, vnloose one of your loopes, and empty it gently into the great Basket, for in throwing them downe roughly, their owne stalkes may prick them; and those which are prickt, will euer rot. Again, you must gather your fruit cleane without Leaves or Bynns, because the one hurts the tree, for every bynth would be a stalk for fruit to grow upon: the other hurts the fruit by bruising, and picking it as it is laid together, and there is nothing sooner rotted fruit, then the greene and withered leaues lying among them; neither must you gather them without any stalk at all: for such fruit will begin to rot where the stalks stand.

Gathering of Apples.

For such fruit as falleth from the trees, and are not gathered, they must not be laid with the gathered fruit: and of fallings there are thus for: one that falls through ripenesse, and they are best, and may be kept to bake or roast: the other wind-falls; and before they are ripe, and they must bee spent as they are gathered, or else they will wither and come to nothing: and therefore it is not good by any meanes to beat downe fruit with poles, or to carry them in Carts loose and logging, or in sacks where they may be brynd.

To vse the fallings.

Carriage of
fruit.

When your fruit is gathered, you shall lay them in beeps
Baskets of Wicker, which will containe foure or five bushels,
and so betweene the beeps carry them to your Apple Loft, and
in shooting or laying them to wood, be very careful that it be
done with all gentleness, and leisure, laying euery sort of
fruit severall by it selfe: but if there be want of roome, ha-
uing so many sorts that you cannot lay them severally, then
such some fruit, as is mererish in taste and colour, and of win-
ter fruit, such as will taste alike, may, if need require, be layd
together, and in thine you may separate them, as shall bee
shewed hereafter. But if your fruit bee gathered faire from
your Apple Loft, then must the bottomes of your Baskets be
lined with greens, Ferne, and draw the Subbotts ends of the
same through the Basket, that none but the loft leafe may
touch the fruit, and likewise couer the tops of the baskets
with Ferne also, and draw small cords ouer it, that the Ferne
may not fall away, nor the fruit scatter out, or lodge vp and
downe: and thus you may carry fruit by Land, or by Water,
by Boat, or Cart, as farre as you please: and the Ferne
both not onely keepe them from bruising, but also ripens
them, especially Peares. When your fruit is brought to your
Apple Loft or Store-house, if you finde them not ripened e-
nough: then lay them in thicke heapes upon Ferne, and
couer them with Ferne also: and when they are nere ripe,
then uncover them, and make the heapes thinner, so as the
ayre may passe through them: and if you will not hasten the
ripening of them, then lay them on the bare boards without
any Ferne at all. Now for Winter, or long lasting Peares,
they may be packt either in Ferne, or Straw, and carried whi-
ther you please; and being come to the marketts end, must
be layd upon sweet straw: but beware the rooms bee not too
warre, nor windie, and too cold, for both are hurtfull: but
in a temperate place, where they may haue ayre, but not too
much.

Of War-
dens.

Of Medlers.

Wardens are to be gathered, carried, packt, & laid as win-
ter Peares are. Medlers are to be gathered about Michaelmas, after a frost
hath toucht them, at which time they are in their full growth,
and will then be dropping from the tree, but neuer ripe upon
the

The Husband-mans fruitfull Orchard.

the tree. When they are gathered, they must be layd in a basket, fine, barrell, or any such cask, & kept about with twopie clothes, under, ouer, and about sides; and also some weight laid vpon them, with a boord besideene: soz except they bee brought into a heate, they will neuer ripen kindly or taste well. Now when they haue layne till you thinke some of them bee ripe, the ripest, still as they ripen, must be taken from the rest: therfoze putte them out into another fine or basket leasurely, that so you may well finde them that be ripest, letting the hard one fall into the other basket, and those which bee ripe laid aside: the other that be halfe ripe, seuer also into a thirde fine or basket: soz if the ripe, and halfe ripe be kept together, the one will be mouldy, before the other be ripe: And thus doe, till al be thoroughly ripe.

Quinces should not bee laid with other fruites; soz the sent is offensive both to other fruites, and to those that keepe the fruit or come amongst them: therfoze lay them by themselves vpon sweet strawe, where they may haue ayre enough: they must be packt like peblers, and gathered with peblers.

Apples must be packt in a heate or lixe strawe, & in maunds or baskets lynes with the same, and being gently handled, will ripen with such packing and lying together. If severall sorts of apples be packt in one maund or basket, then between euery sort, lay sweet strawe of a pretty thicknes.

Apples must not be putted out, but with care and leasure: first, the strawe pickt cleane from them, and then gently take out euery seuerall sort, and place them by themselves: but if soz want of roome you must mixe the sorts together, then lay those together that are of equall lasting: but if they haue all one taste, then they neede no separation. Apples that are not of like colours should not be laid together, and if any such bee mingled, let it be amended, and those which are first ripe, let them be first spent; and to that end, lay those apples together, that are of one time of ripening: and thus you must vse pipping also, yet will they endure bruises better then other fruites, and whilst they are Greene will heale one another.

Pippins, though they grow of one tree, and in one ground, yet some will last better then other some, and some will bee in fruit, bigger then others of the same kinde, according as they

Of Quinces

To packe Apples.

Emptying and laying Apples.

The Husband-mans fruitfull Orchard.

Some more of leafe of the Sun; as more of the droppinge
of the teares of Dyepe; and because therefore let every one make
make of that fruit which he liketh; & longest lasting. Again,
the largenesse & goodness of fruit consisteth in 3 ages of the tree:
for as the tree increaseth, so the fruit increaseth in bignesse,
beauty, taste and kinde; & otherwise as it decreaseth.

Transport-
ing fruit by
water.

If you be to transport your fruite there by water, then pro-
vide some dry hoggs-houses, drawles, and pades in your
apples; and be also with your quills; that have many places may
be left, to occasion fogging; and you must line your vessel
at both ends with fine sweet straw; but not the stork, to a-
void heat: and you must have many holes at either end, to
receive ayre so much the better; and be as much as let them
take wet. Some use, that transport beyond seas; to put the
fruite under hatches upon straw: but it is not so good, if calke
may be gotten.

When not
to transport
fruite.

It is not good to transport fruite in March, when the wind
bloweth bitterly, nor in frosty weather, neither in the extreme
heate of Summer.

To convey
small store
of fruite.

If the quantitie be small you would carry, then you may
carry them in Doffers or Paniers, provided they be coverd
close, and that Cherries and Peares be lined with greene
straw, and Apples with sweet straw; and that, but at the
bottomes and tops, not on the sides.

Roomes for
fruit.

Winter fruite must ly: neither too hot; nor too cold; too
close; nor too open: for all are offensive. A towe roome of
Celler that is covered, and either boarded or paved, and not too
high, is good, from Christmas till March: and roomes that are
well covered, and from the ground, are good from March
till May: then the Celler againe, from May till Michaelmas.
The apple-late should be sealed or boarded, which if it want,
then take the longest dry straw, and raise it against 3 walls,
to make a fence as high as the fruite lieth; & let it be no thick-
er then to keepe the fruite from the wall, which being moyst,
may doe hurt, or if not moyst, then the dust is offensive.

Sorting of
fruit.

There are some fruit which will last but untill All-hallow-
tide: they must be sold by themselves; then those which will
last till Christmas, by themselves: then those which will last
till it be Candlemas, by themselves: those which will last till
Whynoe.

Shonettide, by themselves: & Pippins, Apple-Johns, Peare-maines, and winter-Russetings, which will last all the yeere, by themselves.

Now if you spy any rotten fruit in your heapes, pick them out, and with a Trey for the purpose, see you turne the heape over, and leane not a tainted Apple in them, dividing the hardest by themselves, and the broken skinned by themselves to be first spent, and the rotten ones to be cast away; and ever as you turne them, and picke them, under-lay them with fresh straw: thus shall you keepe them safe for your use, which otherwise would rot suddenly.

Pippins, John-Apples, Peare-maines, and such like long-Times of lasting fruit, need not bee turned till the weeke before Christ-mas, unless they be mixt with other of a riper kind, or that the fallings be also with them, or much of the first straw left amongst them: the next time of turning is at Shonettide, and after that, once a moneth till Whitson-tide; and after that, once a fortnight; and ever in the turning, lay your heapes lower and lower, and your straw very thinne: provided you doe none of this labour in any great frost, except it bee in a close Celler. At every thawe, all fruit is moist, and then they must not be touched; neither in rainy weather, for then they will be danke also: and therefore at such seasons it is good to set open your windowes, and doores, that the ayre may haue free passage to dry them, as at nine of the clocke in the fore-noone, and foure in the afternoone in Winter; and at five in the fore-noone, and at eight at night in Summer: onely in March, open not your windowes at all.

All lasting fruit, after the middest of May, begin to wither, because then they ware dry, and the moisture gone, which made them looke plump: they must needs wither, and bee smaller; and nature decaying, they must needs rot. And thus much touching the ordering of fruits.

Shrivel-
ing of fruit.

FINIS.

THe Booke of Bees, called the *feminine Monarchy*, written heretofore by M^r. Charles Butler, and now so much desired, shall shortly be set forth againe, corrected and augmented by the Authors further experience.

The House was adjourned.

1. The first part of the document is a list of names and titles, including "The Hon. Mr. Justice" and "The Hon. Mr. Justice".

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... ..

1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

1. The first step is to identify the problem or issue that needs to be addressed. This involves gathering information and understanding the context of the problem.

1. The first step is to identify the problem or question that needs to be addressed. This involves understanding the context and the specific requirements of the task.

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... only a few ...

1. The first part of the document is a letter from the President of the United States to the Congress, dated January 1, 1861. It is a formal address, and it is the first of its kind since the signing of the Constitution. The President, James Buchanan, is addressing the Congress, and he is doing so in a formal and dignified manner. He is discussing the state of the Union, and he is discussing the issues that are facing the country at that time. He is discussing the issue of slavery, and he is discussing the issue of the rights of the states. He is discussing the issue of the federal government, and he is discussing the issue of the relationship between the federal government and the states. He is discussing the issue of the future of the country, and he is discussing the issue of the role of the President in the government. He is discussing the issue of the rights of the people, and he is discussing the issue of the responsibilities of the government. He is discussing the issue of the future of the country, and he is discussing the issue of the role of the President in the government. He is discussing the issue of the rights of the people, and he is discussing the issue of the responsibilities of the government.

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1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific information required.

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